



City of Gahanna

Thoroughfare Plan Report

by

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Thoroughfare Plan Report

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Executive Summary

The Gahanna Thoroughfare Plan is a comprehensive evaluation and analysis of the roadway system within the City of Gahanna. This evaluation includes an analysis of the current and design year roadway conditions and provides an updated Thoroughfare Plan for the City.

The key components that are integral in assisting the City in prioritizing infrastructure needs over the next twenty-five years include the following items:

- Evaluating the existing roadway system to provide a base set of data on the status and operation of the existing roadway system. This includes a separate accident evaluation report to analyze current safety conditions.
- Analyzing the design year roadway system based on projected traffic volumes on the roadway network. This includes evaluating the planning capacity of the roadway links, key intersections, and evaluating the need for roadway system improvements.
- Updating the Thoroughfare Plan for the City. This includes the existing network and design year improvements. The overall plan accounts for neighborhood considerations in planning improvements.
- Preparing special studies to be used as working documents for the City. These include: Access Management Guidelines, Traffic Impact Study Guidelines, and Speed Limit Journalization Reports.
- Recommending an interval for updating the Thoroughfare Plan, Accident Studies, Access Management Report, and Traffic Impact Study.

The improvements recommended as part of the Gahanna Thoroughfare Plan are based on current conditions and reasonable projections of design year conditions. If there are significant land use changes, the Thoroughfare Plan may need to be evaluated at a high level of detail.

The improvements proposed in the Thoroughfare Plan are designed to be phased to improve traffic operations in the City. The ultimate goal is to maintain safe levels of traffic operations and a high quality of life for the City's residents.

Chapter 1 – Project Study Area

Project Description

The City of Gahanna's Thoroughfare Plan Update will provide both near-term and long-term understanding of the transportation needs within the City. The continued growth of the City requires a planned transportation network to coordinate with the City's master plans. The Thoroughfare Plan Update will evaluate a variety of elements to include: Evaluating the existing roadway network, considering land use planning; evaluating future traffic volumes and the long-term roadway network and identifying future requirements for right-of-way and preserving corridors prior to development. The goal of the Thoroughfare Plan Update is to provide a living document to assist the City with future roadway planning and land development. The project area is depicted in Figure 1.

The project will also include special studies to address transportation needs within the City. They will include an accident studies update, speed limit evaluation and journalization, development of an access management plan, and recommendations for traffic impact studies.

Existing Area Conditions

The City of Gahanna is located in northeast Franklin County, adjacent to Columbus, New Albany and Jefferson Township. The City is conveniently located to major destinations in Franklin County with the close proximity of I-270 and I-670. Downtown Columbus is eight miles from Gahanna and the Port Columbus International Airport can be accessed from the I-670/I-270 interchanges. The 2000 census estimated a population of over 32,000 within the City limits.

Roadways within the overall study area are within the jurisdictions of the City of Gahanna, City of Columbus, Village of New Albany, and Franklin County (Jefferson Township). The main roadways to be studied are within the corporate limits of the City of Gahanna. However, the other roadways will be considered as part of the current and future influence area in the City.

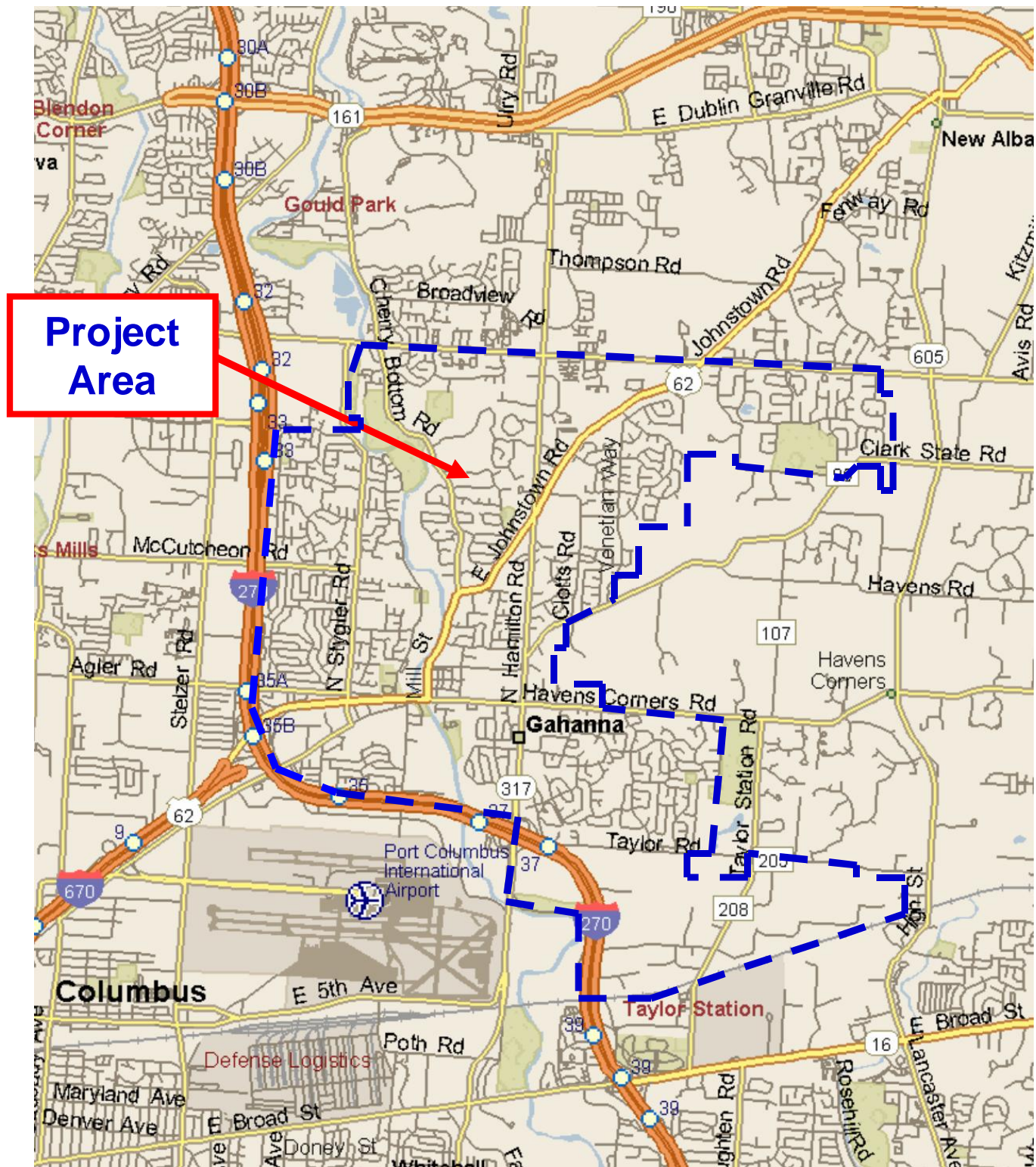


Figure 1
Project Area

Data Collection

Base data was collected from the City and adjacent areas to determine the existing area conditions. This information included:

- Planning studies and land use data from the City of Gahanna. This included the 2002 Land Use Update and plans for development at Creekside and in the Triangle Area.
- Planning studies and land use data from surrounding areas, including the 2001 New Albany Strategic Plan, Rocky Fork-Blacklick Accord, Port Columbus International Airport Master Plan, and Mid-Ohio Regional Planning Commission (MORPC) land use projections for the planning area.
- Thoroughfare plans and/or roadway classification from the City of Gahanna, City of Columbus, Village of New Albany and MORPC.
- Existing mapping of the area from the City Geographic Information System (GIS).
- Information on current and near-term construction projects in the project area.
- City of Gahanna Capital Improvements Plan.

Multiple site visits were made and an inventory of the main roadways in the transportation system were developed including:

- Roadway segments (arterials and collectors).
- Number of lanes, lane uses, speed limits and other area features.
- Key intersections: Number of lanes, lane uses and signalized/unsignalized.

Land Use and Development

The City of Gahanna has continued to grow over the past decade, from 27,800 in 1990 to 32,000 in 2000. The area is influenced by growth outside its borders. It should be noted that New Albany and Jefferson Township have plans for controlling growth and this benefits Gahanna by locating proposed developments where they can be better served by the regional roadway system.

The City of Gahanna Department of Development reports the following information on development areas in the City:

- The West Gahanna development is located in the area surrounding Agler Road and Stygler Road. It encourages higher-end infill and redevelopment. This includes single family, multifamily residential, a new church and retail.
- The Olde Gahanna development is located north of Granville Street between Ridenour Road and Mill Street. It is under redevelopment as a mixed use downtown center that is designed to be walkable and promote the small town

feel. The redevelopment work includes renovation projects, new buildings and Creekside Park.

- The Triangle developments (north and south) are located in the area bounded by Hamilton Road, Johnstown Road and Morse Road. It includes residential development, retail and a YMCA. This section of Hamilton Road is currently under construction.
- The Industrial District is located in the southeast part of the City and concentrated off Claycraft Road. It continues to add office, warehouse and industrial space.
- A conceptual development for Central Park has been presented to the City. This would be located in the industrial area near Claycraft Road. It would include light industrial, mixed use and potentially, a golf course.

Chapter 2 – Existing Conditions and Analysis

Existing Roadway System and Thoroughfare Plan Roadways

The primary roadway systems within the study area consist of arterial and collector roads. The City has efficient access to the interstate system, with interchanges to I-270 and I-670. Table 1 provides a summary of the existing roadway characteristics. Existing street network and intersection lane configurations for key corridors in the City are included in Appendix A.

*Table 1
Existing (2006) Roadway System Classification*

| <i>Roadway Section</i> | <i>Limits</i> | <i>Classification</i> |
|------------------------|----------------------------------|-----------------------|
| Agler Road | Stelzer Rd to Stygler Rd | Minor Arterial |
| Beecher Road | Hamilton Rd to Johnstown Rd | Collector |
| Carpenter Road | Mill Street to Hamilton Road | Collector |
| Chapelfield Road | Stygler Road to Ridenour Road | Collector |
| Cherry Bottom Road | Mill Street to Academy Woods Dr | Collector |
| | Academy Woods Dr to Morse Road | Collector |
| Clark State Road | Hamilton Road to Clotts Road | Collector |
| | Clotts Road to Darling Road | Collector |
| Claycraft Road | Morrison Rd to Taylor Station Rd | Collector |
| Clotts Road | Clark State Rd to Johnstown Rd | Collector |
| E. Johnstown Road | Mill Street to Hamilton Road | Minor Arterial |
| | Hamilton Road to Beecher Road | Minor Arterial |
| | Beecher Road to Riva Ridge Road | Minor Arterial |
| | Riva Ridge Road to Morse Road | Minor Arterial |
| US 62/Granville Street | Stygler Rd to Ridenour Rd | Major Arterial |
| | Ridenour Rd to Mill St | Major Arterial |
| | Mill St to Hamilton Rd | Major Arterial |
| Hamilton Road | Sawyer Rd to Morrison Rd | Major Arterial |
| | Morrison Rd to Rocky Fork Dr. N | Major Arterial |
| | Rocky Fork Dr. N to Granville St | Major Arterial |
| | Granville St to Clark State Rd | Major Arterial |
| | Clark State Rd to Johnstown Rd | Major Arterial |
| | Johnstown Rd to Beecher Rd | Major Arterial |
| | Beecher Rd to Morse Rd | Major Arterial |

*Table 1 (Cont.)
Existing (2006) Roadway System Classification*

| <i>Roadway Section</i> | <i>Limits</i> | <i>Classification</i> |
|------------------------|---|-----------------------|
| Havens Corners Road | Hamilton Rd to Helmbright Rd | Major Arterial |
| | Helmbright Rd to Taylor Station Rd | Major Arterial |
| | Taylor Station Rd to Rey-New Albany Rd | Major Arterial |
| Havens Road | Clark State Road to Mann Road | Collector |
| Headley Road | Shull Road to Clark State Road | Collector |
| Helmbright Road | Taylor Rd to Havens Corners Rd | Collector |
| Hines Road | McCutcheon Rd to Wendler Blvd | Collector |
| Lincolnshire Road | Agler Road to McCutcheon Rd. | Collector |
| Mann Road | Havens Corners Road to Clark State Road | Collector |
| McCutcheon Road | Stelzer Rd to Stygler Rd | Minor Arterial |
| Mill Street | Granville St to Carpenter Rd | Minor Arterial |
| | Carpenter Rd to Johnstown Rd | Minor Arterial |
| Morrison Road | Claycraft Rd to Tech Center Dr | Collector |
| | Tech Center Dr to Taylor Rd | Collector |
| | Taylor Road to Hamilton Road | Minor Arterial |
| Morse Road | I-270 to Stygler Road | Major Arterial |
| | Stygler Road to Cherry Bottom Road | Major Arterial |
| | Cherry Bottom Road to Hamilton Road | Major Arterial |
| | Hamilton Road to Underwood Farms Dr | Major Arterial |
| | Underwood Farms Dr to Johnstown Road | Major Arterial |
| | Johnstown Road to Harlem Road | Major Arterial |
| Ridenour Road | W. Johnstown Rd to Chapelfield Rd | Collector |
| Shull Road | Headley Road to Morse Road | Collector |
| Stygler Road | W. Johnstown Rd to US 62 | Minor Arterial |
| | US 62 to Agler Rd | Minor Arterial |
| | Agler Rd to McCutcheon Rd | Minor Arterial |
| | McCutcheon Rd to Ridenour Rd | Minor Arterial |
| | Ridenour Rd to Morse Rd | Minor Arterial |
| Taylor Road | Morrison Rd to Taylor Station Rd | Minor Arterial |
| | Taylor Station Road to Eastgate Pkwy | Minor Arterial |
| Taylor Station Road | Claycraft Rd to Taylor Rd | Minor Arterial |
| | Taylor Rd to Havens Corners Rd | Minor Arterial |
| Tech Center Drive | Development to Morrison Road | N/A |
| W. Johnstown Rd | Stygler Rd to Ridenour Rd | Collector |

Figure 2 presents the City of Gahanna roadway system number of lanes on the existing roadway network. This includes all current lane configurations and the roadway projects scheduled for completion in 2006. The following describes the general configuration of the roadways within the City.

- 1/1 – streets with one through lane in each direction. These may include turn lanes at select locations.
- 1/1T – streets with one through lane in each direction and a two-way left turn lane. Left and/or right turn lanes may also be located at intersections.
- 2/2T – streets with two through lanes in each direction and a two-way left turn lane. Left and/or right turn lanes may be located at intersections and major drives.
- 2/2D – streets with two through lanes in each direction and a median. Left and right turn lanes are located at intersections. Turn lanes may also be included at major drives. This provides a higher level of access management, especially for Major Arterials.

The current roadway system has a significant number of two lane roads, especially on the east side of the City and into Jefferson Township.

The City has a limited number of roadway corridors that have sections with a divided median to provide a higher level of access management. Sections of Hamilton Road and Granville Street within the limited access area (and departing the area) currently have medians. The north section of Hamilton Road that is under construction includes a median section.

Current and Near-term Projects

The City of Gahanna and the surrounding areas have identified projects to be included in the near-term and long-term plan. MORPC maintains a near-term list of planned projects, identified in the Transportation Improvement Plan (TIP), and long-term plans as part of the 2030 Regional Transportation Plan. Both plans are evaluated and updated on a regular basis. The current projects within the Gahanna planning area are listed below, along with projects under construction.

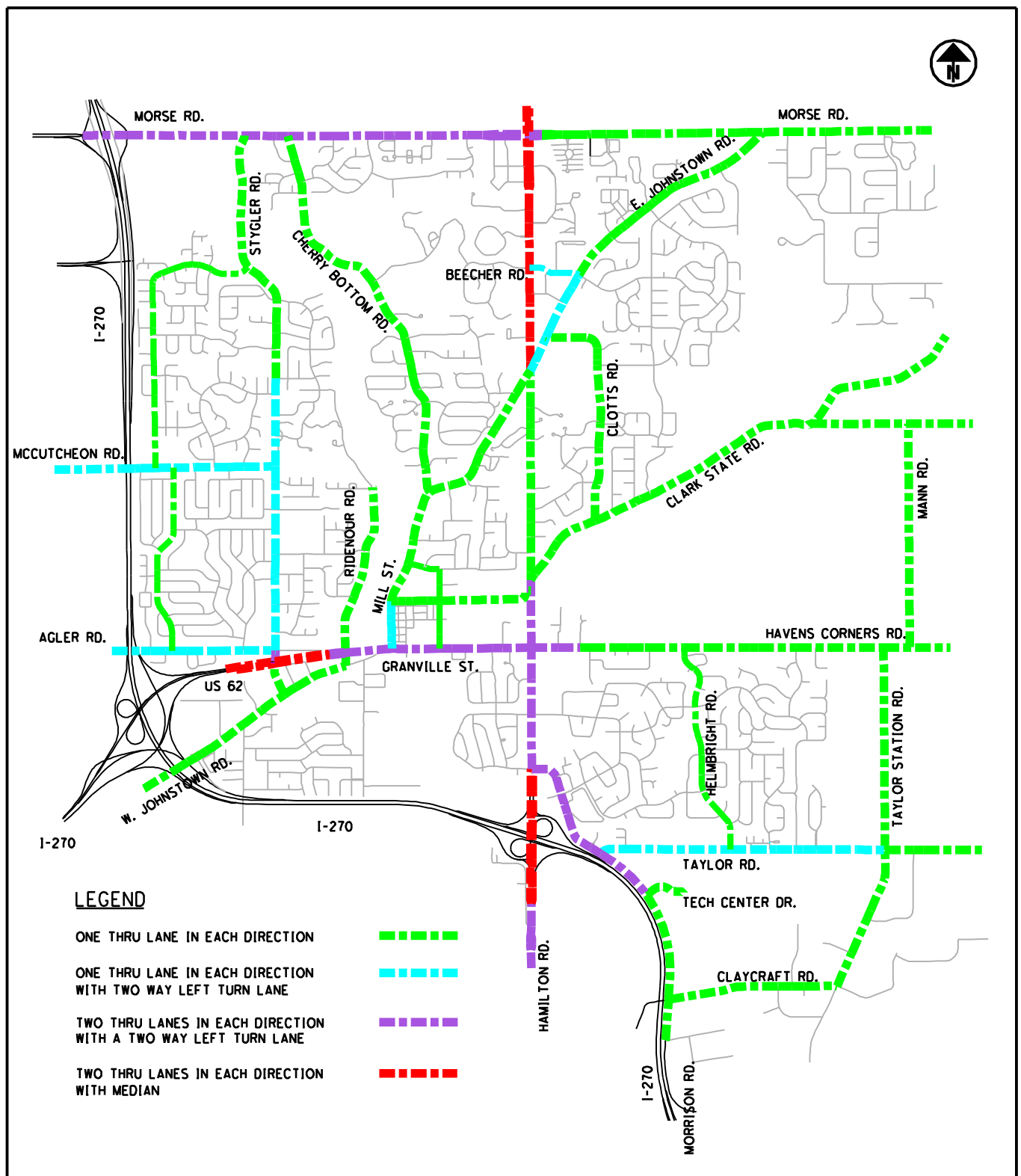


Figure 2
Existing Roadway System Number of Lanes

Current projects under construction in the planning area:

- Hamilton Road widening from two to five lanes between Johnstown Road and the Stone Ridge Shopping Center.
- Beecher Road widening from two to three lanes between Hamilton Road and Johnstown Road.
- Havens Corners Road and Reynoldsburg-New Albany Road intersection improvements.
- Morse Road and Johnstown Road intersection improvements to construct a modern roundabout (with two lanes in each direction) by the Franklin County Engineer's Office.
- Morrison Road widening from two to five lanes from south of Taylor Road to south of Tech Center Drive.

The 2006-2009 MORPC TIP includes the following projects:

- Hamilton Road widening from Clark State Road to Johnstown Road (under study).
- SR 161 Bypass, new roadway construction from New Albany into Licking County.
- Johnstown Road widening from two to three lanes from Beecher Road to north of Riva Ridge Boulevard.
- Morse Road at Reynoldsburg-New Albany Road intersection improvements.
- Central College Road at Harlem Avenue intersection improvements.

The MORPC 2030 Regional Transportation Plan includes the following improvements:

- James Road/Stelzer Road widening from Main Street to International Gateway.
- Stelzer Road interchange at I-670/International Gateway (Port Columbus International Airport).
- Stelzer Road widening from I-670 to McCutcheon Road (add one lane in each direction).

- Hamilton Road extension from Old East Dublin-Granville Road to SR 161.
- Taylor Road from Morrison Road to Reynoldsburg-New Albany Road (standard lane widths and turn lanes).
- Morse Road from Hamilton Road to Reynoldsburg-New Albany Road (minor safety widening, no new lanes planned).
- Hamilton Road widening from Johnstown Road to Dublin Granville Road (add one lane in each direction).
- Havens Corner Road widening from Hamilton Road to Reynoldsburg-New Albany Road (add one lane in each direction).
- Taylor Station Road from Westbourne Avenue to Havens Corners Road (minor safety widening, no new lanes planned).
- Hamilton Road widening from Clark State Road to Johnstown Road (add one lane in each direction).
- SR 161 from US 62 to Babbitt Road (new freeway).
- Broad Street widening from Taylor Station Road to Taylor Road (add one lane in each direction).
- Tech Center Drive extension from Hamilton Road to Morrison Road (two lanes in each direction).
- Morrison Road from Waterbury Boulevard to Tech Center Drive (add one lane in each direction).
- Hamilton Road extension from Central College Road to Harlem Road (new roadway two lanes in each direction).
- Hamilton Road from SR 161 to Central College Road (add one lane in each direction).
- US 62 at Morse Road intersection improvement (modern roundabout).
- Reynoldsburg-New Albany Road at Taylor Road intersection improvement.

These projects are included as part of the No Build condition for the City of Gahanna 2030 roadway network.

Traffic Data Collection

Average daily traffic (ADT) data was obtained from the City of Gahanna for several arterials and collectors in the roadway system. Additional ADT information was obtained from MORPC traffic count information. The Franklin County Engineer's Office also had data available on some roadways in Jefferson Township. All data is adjusted to a 2006 base year (existing conditions). Figure 3 provides a summary of the existing ADT on the roadway network.

Peak Hour traffic count data was obtained from the City of Gahanna and Franklin County Engineer's Office for several key intersections. The data included AM and PM peak hours. Data obtained from the 2000 Hamilton Road/Granville Street signal coordination study was adjusted to a 2006 base. Capacity analysis using the methodology of the Transportation Research Board Highway Capacity Manual will be completed on the following intersections to determine a generalized base year operation:

Hamilton Road/Granville Street Network:

- Hamilton Road and I-270 South Ramps
- Hamilton Road and I-270 North Ramps
- Hamilton Road and Morrison Road
- Hamilton Road and Rocky Fork Boulevard
- Hamilton Road and Granville Street/Havens Corners Road
- Hamilton Road and Kroger Shopping Plaza Drive
- Hamilton Road and Rocky Fork Shopping Plaza Drive
- Hamilton Road and Clark State Road
- US 62 and Ridenour Road
- Granville Street and Mill Street
- Granville Street and Shull Avenue
- Granville Street and Lincoln Circle (East)
- Granville Street and Flint Ridge Drive

Additional intersection in the City of Gahanna:

- US 62 and Stygler Road

Traffic Analysis at Key Intersections

Capacity analyses were performed and levels of service were defined for each signalized intersection in the study area. The concept of level of service uses qualitative measures that characterize conditions within a traffic stream and their perceptions by motorists. The descriptions of individual levels of service characterize these conditions in terms of such factors as speed and travel time, freedom to maneuver, traffic density, and comfort and convenience.

Six levels of service are defined for each type of facility for which analysis procedures are available. They are given letter designations, from A to F, with level of service (LOS) A representing the best operating conditions and LOS F the worst. LOS E corresponds to the maximum flow rate of capacity. Each level of service represents a range of operating conditions.

Signalized Intersections

The Hamilton Road/Granville Street Network will be analyzed using Synchro software. Synchro allows for the interconnection and coordination of traffic signal timing on a roadway network. The software will allow the signals in the network to be evaluated as a coordinated system and the output can be reported in the format of the Highway Capacity Software (HCS). The methodology of the signalized intersection analysis in the Highway Capacity Manual analyzes lane groups, intersection approaches, and the overall intersection approach.

The level of service is calculated based on the average control delay per vehicle as shown in Table 2. A level of service of D or better for urbanized areas is acceptable to most agencies.

Table 2
Level of Service Criteria for Signalized Intersections

| Level of Service | Control Delay per Vehicle (s/veh) |
|------------------|-----------------------------------|
| A | ≤ 10 |
| B | $> 10 - 20$ |
| C | $> 20 - 35$ |
| D | $> 35 - 55$ |
| E | $> 55 - 80$ |
| F | > 80 |

Source: Highway Capacity Manual 2000

Figures 4 and 5 show the level of service results in for the AM and PM peak hours for the selected intersections. Intersections in the Granville Street and Hamilton Road Corridor were analyzed using Synchro to simulate the interconnection of traffic signals on both roadways. The timings for these signals were input based on the 2000 signal timing study. This was implemented to simulate the current conditions on the system for the two major arterials.

The US 62 and Stygler Road intersection was input into the Synchro program; however, it was not interconnected to the system because it operates in coordination with Agler Road (which was not included in the study). The dual intersection Stygler Road with US 62 and Agler Road operates over capacity in the peak hours and essentially operates as a single intersection due to the close spacing.

The figures report the level of service and delay for all intersection approaches and the overall intersection based on the HCS software format. It should be noted that the Synchro program optimizes the mainline roadways, Granville Street and Hamilton Road, and promotes arterial progression. This can result in higher levels of service on side streets, which typically have lower traffic volumes. While the overall intersection level of service may be acceptable, some side streets may experience high delay. In general, Hamilton Road and Granville Street will have high traffic volumes during the peak hours and the results of individual intersections will vary based on the operation and metering of the traffic signal system.

For the AM peak hour, the following intersections have unacceptable overall levels of service.

- US 62 and Stygler Road (LOS F).
- Granville Street and Mill Street (LOS F).
- Hamilton Road and Morrison Road/Rocky Fork Drive South (LOS E).
- Hamilton Road and Rocky Fork Drive North/Rocky Fork Boulevard (LOS E).

For the PM peak hour, there are three intersections that have unacceptable levels of service.

- Granville Street and Mill Street (LOS E).
- Hamilton Road and Morrison Road/Rocky Fork Drive South (LOS F).
- Hamilton Road and Rocky Fork Drive North/Rocky Fork Boulevard (LOS F).
- Hamilton Road and Granville Street (LOS F).

The intersections with the higher levels of congestion also experience longer queues. This also degrades the operation and capacity of the individual intersections.

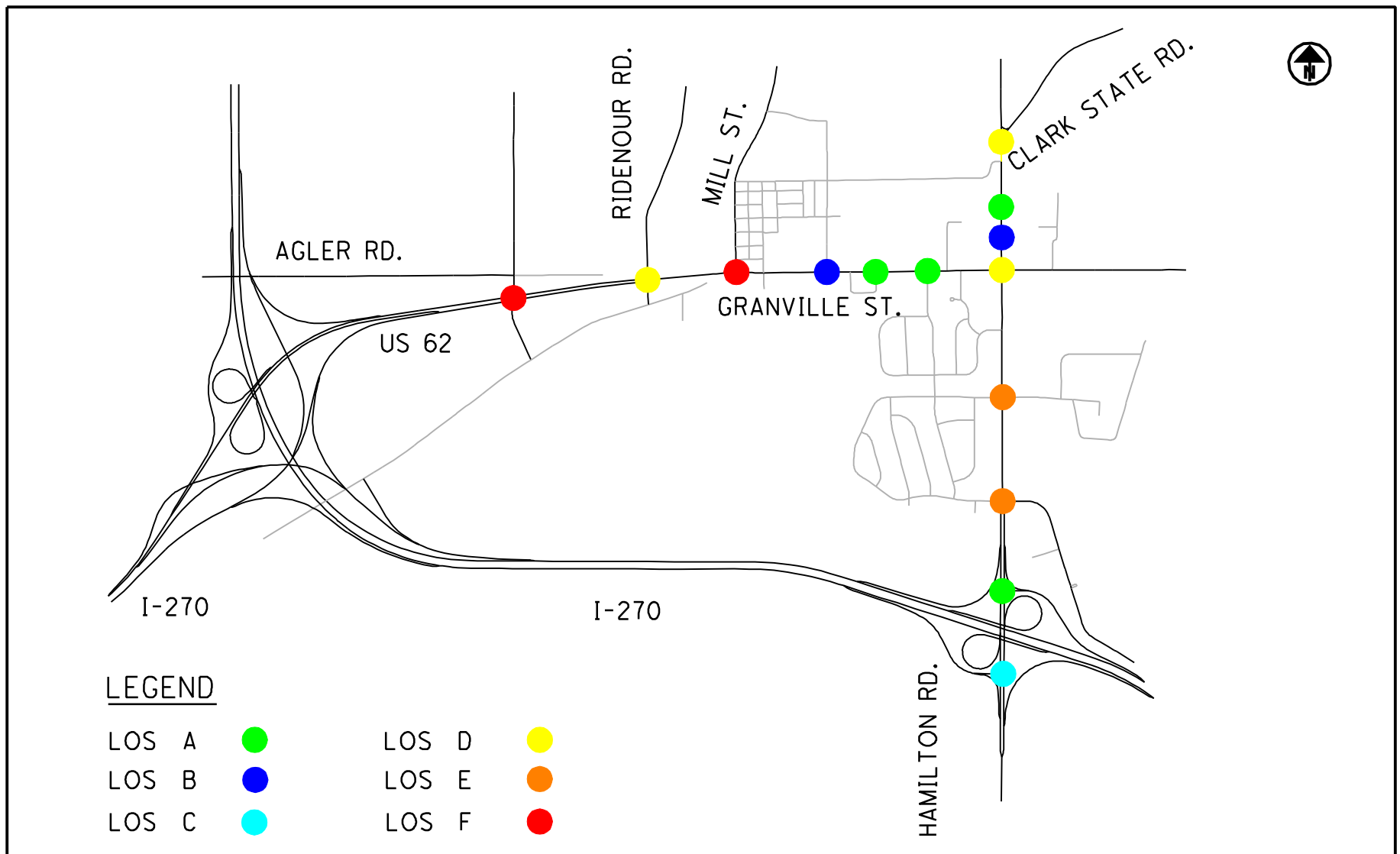
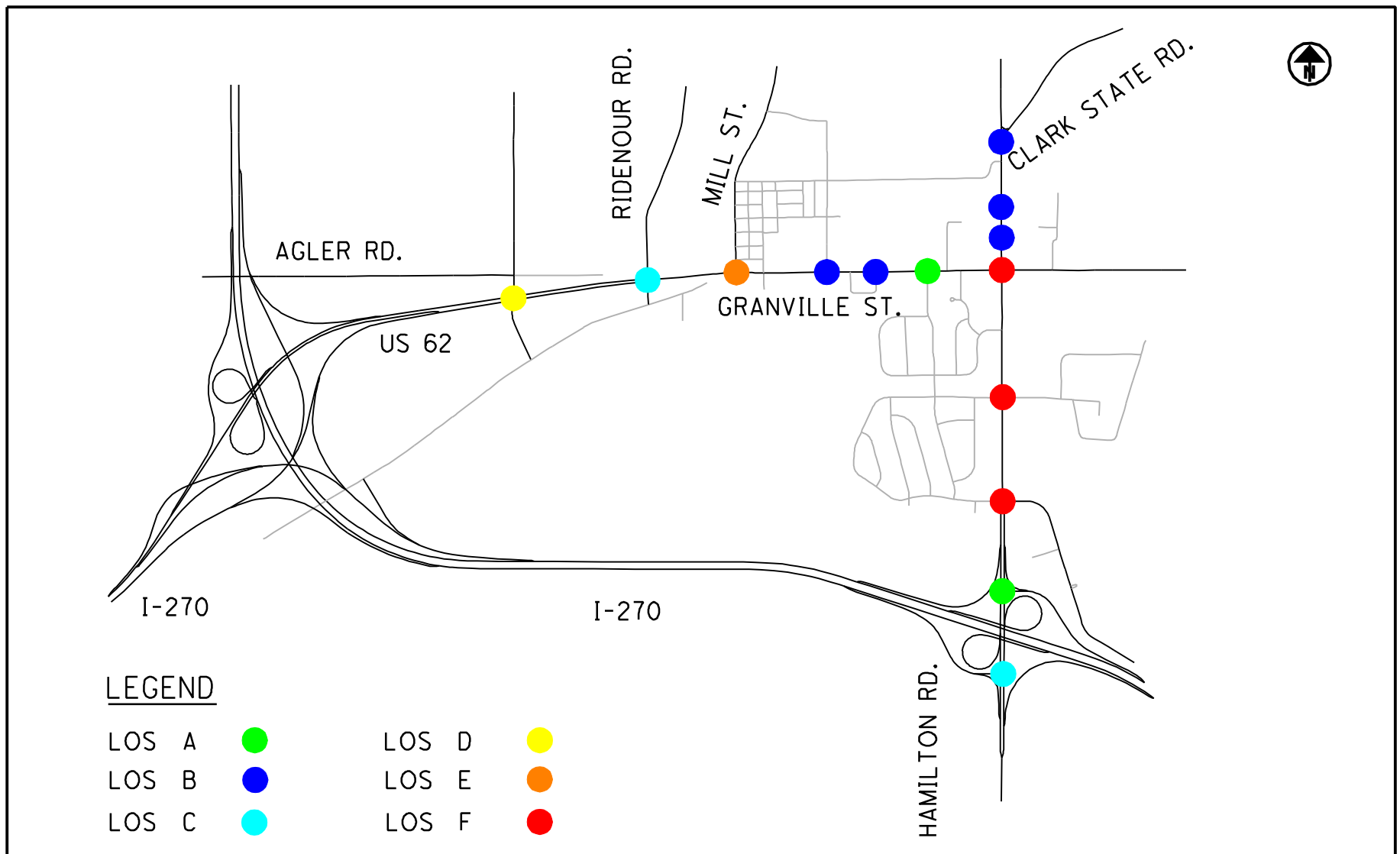


Figure 4
Existing AM Peak Hour Level of Service Map



City of Gahanna Thoroughfare Plan

November 21, 2006

Figure 5
Existing PM Peak Hour Level of Service Map

Roadway System Capacity

The existing Gahanna area roadway system was evaluated to confirm the classification, operations, and traffic volumes utilizing each segment of the existing roadway system. The City of Gahanna provided mapping of all speed limits within the City. Estimates of the existing right-of-way on the roadway network were obtained from the Franklin County Engineer's GIS website. Figure 6 presents a summary of the existing area roadway network capacity.

The existing roadway system was evaluated based on the average daily traffic volumes and the existing number of lanes. This evaluation uses a planning level of analysis to determine a general level of capacity for through roadways. The evaluation is based on the daily volume to capacity for the roadway based on through lane capacity.

- A volume to capacity (V/C) ratio of less than 0.80 represents a roadway that operates efficiently throughout the day and during the peak hour. There may be times where roadway links and intersections experience some congestion.
- A V/C ratio of 0.80 to 1.00 represents roadways that experience increased congestion at several times throughout the day. High levels of roadway and intersection congestion are present during the AM and PM peak hours.
- A V/C ratio over 1.00 represents roadways that experience failing levels of service for segments and intersections during the peak hour and at other times of the day.

There are a few segments on the existing roadway system that are over capacity. These include the following:

- Hamilton Road from South of I-270 to Morrison Road
- Hamilton Road from Rocky Fork North to Granville Street.
- Hamilton Road from Clark State Road to Beecher Road.
- Morse Road from Hamilton Road to Johnstown Road.

These sections are evaluated as over capacity from the perspective of a planning level of analysis for the Thoroughfare Plan Roadways.

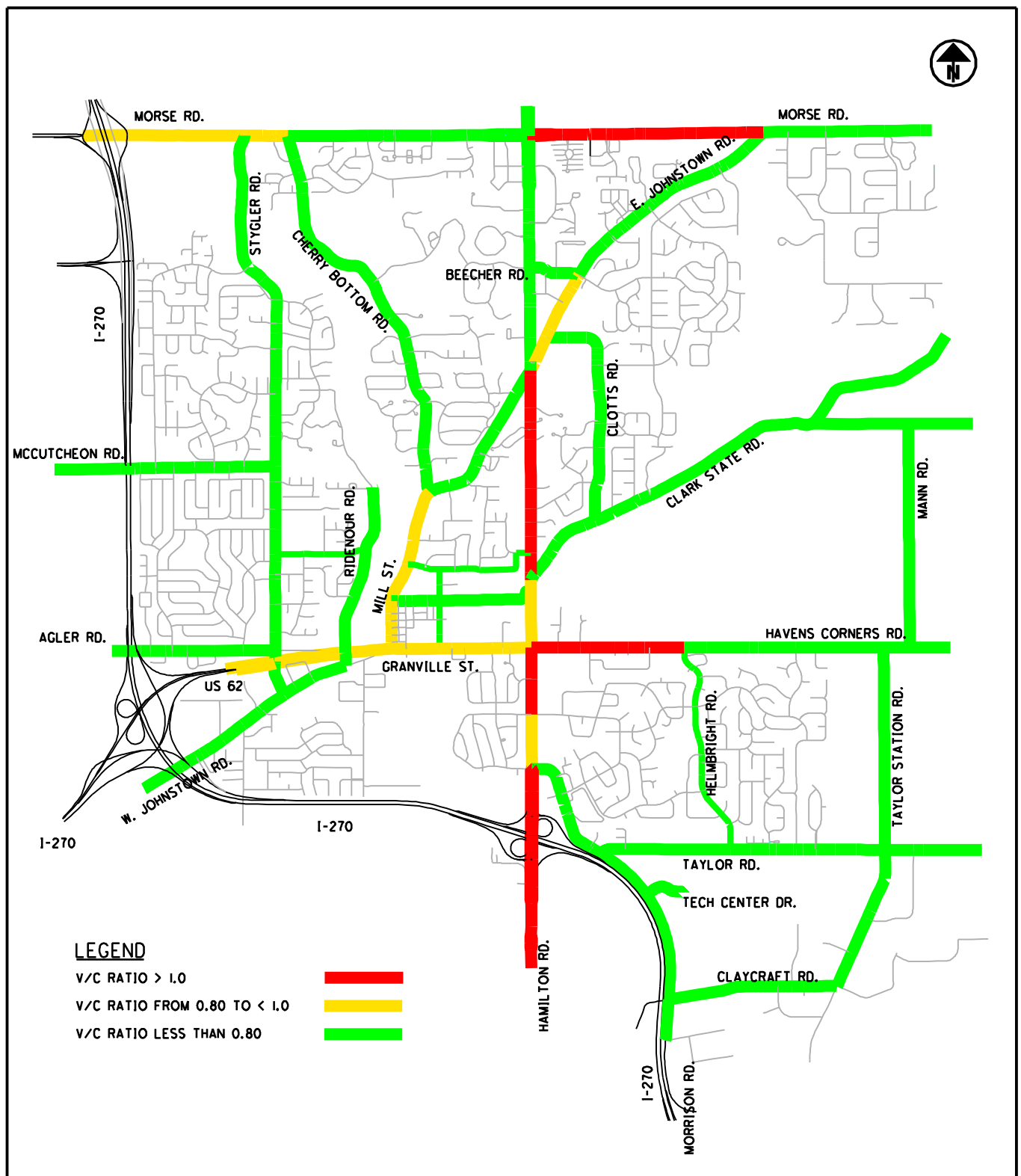


Figure 6
Existing Congestion Map

Chapter 3 – Safety Evaluation

Accident Studies

Traffic safety is a critical transportation issue across the country and throughout individual communities. While education and enforcement play a key role in reducing accidents, evaluating and improving the safety of the roadway network is an ongoing activity. Most suburban communities, such as Gahanna, experience changes in traffic patterns as land uses change over time. This accident studies update will assist the City in evaluating the safety of intersections and roadway segments.

This information will be used in coordination with the Thoroughfare Plan Update and Capital Improvement plans to assist the City in identifying locations in need of improvement in the near-term and potentially long-term. Early identification of safety needs will allow the City to pursue funding options through the Ohio Public Works Commission and the ODOT Safety Program.

A separate Accident Evaluation Report contains the following data and analysis for the City of Gahanna:

- Obtain and evaluate updated crash data from the Ohio Department of Public Safety (ODPS) for the years 2003 through 2005.
- Utilize the proposed ranking system from the 2004 study to evaluate key intersections and roadway segments in the City.
- Identify crash problems and hotspots within the City intersections and segments.
- Identify potential mitigation techniques.

Segment Evaluation

The Ohio Department of Public Safety provided roadway segment accident data from 2003, 2004 and 2005 for evaluation and analysis as part of this study. The data was evaluated for the following roadway segments:

- Hamilton Road from I-270 to Granville Street
- Hamilton Road from Granville Street to Johnstown Road
- Hamilton Road from Johnstown Road to Morse Road
- Stygler Road from Johnstown Road to Agler Road
- Stygler Road from Agler Road to McCutcheon Road
- Stygler Road from McCutcheon Road to Morse Road
- Mill Street from Granville Street to Johnstown Road

- Cherry Bottom Road from Mill Street to Morse Road
- E. Johnstown Road from Mill Street to Hamilton Road
- E. Johnstown Road from Hamilton Road to Morse Road
- Clark State Road from Hamilton Road to Clotts Road
- Clotts Road from Johnstown Road to Clark State Road
- Morrison Road from Hamilton Road to Taylor Road
- Morrison Road from Taylor Road to Claycraft Road
- Taylor Station Road from Claycraft Road to Taylor Road
- Taylor Station Road from Taylor Road to Havens Corners Road
- US 62 from Stygler Road to Mill Street
- Granville Street from Mill Street to Hamilton Road
- Havens Corners Road from Hamilton Road to Helmbright Drive
- Havens Corners Road from Helmbright Drive to Taylor Road

Intersection Evaluation

The Ohio Department of Public Safety also provided intersection accident data from 2003, 2004 and 2005 for evaluation and analysis as part of this study. The data was evaluated for the following intersections:

- Hamilton Road & Rocky Fork Drive S/Morrison Road
- Hamilton Road & Kroger Shopping Center
- Hamilton Road & Rocky Fork Drive North
- Hamilton Road & Gahanna Lincoln High School
- Hamilton Road & Granville Street
- Hamilton Road & Clark State Road
- Hamilton Road & E. Johnstown Road
- Stygler Road & US 62
- Stygler Road & Agler Road
- Stygler Road & Chappelfield Road
- Stygler Road & Gamewood Drive
- Stygler Road & McCutcheon Road
- E. Johnstown Road & Cherry Bottom Road
- E. Johnstown Road & Clotts Road
- E. Johnstown Road & YMCA Place
- E. Johnstown Road & Beecher Road
- E. Johnstown Road & Riva Ridge Boulevard
- Morrison Road & Waterbury Boulevard
- Morrison Road & Taylor Road
- Morrison Road & Tech Center Drive
- Mill Street & Walnut Street
- Mill Street & Carpenter Road
- US 62 & Olde Ridenour Road

- Granville Street & Shull Avenue
- Granville Street & Mill Street
- Granville Street & Lincoln Circle
- Granville Street & Flint Ridge Drive
- Taylor Station Road & Claycraft Road
- Agler Road & Imperial Drive
- Carpenter Road & Shepard Street
- Havens Corners Road & Helmbright Road
- Morse Road & Underwood Farms Drive

Summary of Findings

The findings of the crash analysis for the intersections and segments within the City limits are summarized below. The results are consistent with research and studies that show a direct relationship between crashes and congestion on the roadway system. The intersections and segments in Gahanna are locations that have high congestion in the peak periods and also experience congestion at other times during the day.

The intersections in the City with the highest crash ratings are:

- Hamilton Road and Granville Street.
- Stygler Road and US 62/Agler Road (dual intersection).
- Hamilton Road and Rocky Fork Drive North.
- Hamilton Road and Rocky Fork Drive South/Morrison Road.
- US 62 and Ridenour Road.

The intersection evaluation considered the crash frequency, crash rate (frequency considering traffic volume), and severity.

The roadway segments with the highest crash ratings are:

- Hamilton Road from Johnstown Road to Morse Road (prior to new construction).
- Hamilton Road from Granville Street to Johnstown Road.
- US 62 from Stygler Road to Mill Street.
- Granville Street from Mill Street to Hamilton Road.
- Hamilton Road from I-270 to Granville Street.

The segment evaluation considered the crash frequency (measured over section distance), crash rate (frequency considering traffic volume) and severity.

Chapter 4 – Access Management

Access Management Defined

Access Management is an efficient way of dealing with the problems associated with traffic congestion and safety caused by motorists turning at driveways and intersections. Congestion and the threat of accidents becomes greater as the number of driveways and intersections increases and the distance between them decreases.

Typical goals of access management include:

- Improving public safety by reducing the number of accidents.
- Improving the corridor by reducing vehicle conflicts, effectively increasing mobility and decreasing delay.
- Providing safe access to businesses and properties.
- Maximizing the efficiency of existing and proposed roads.

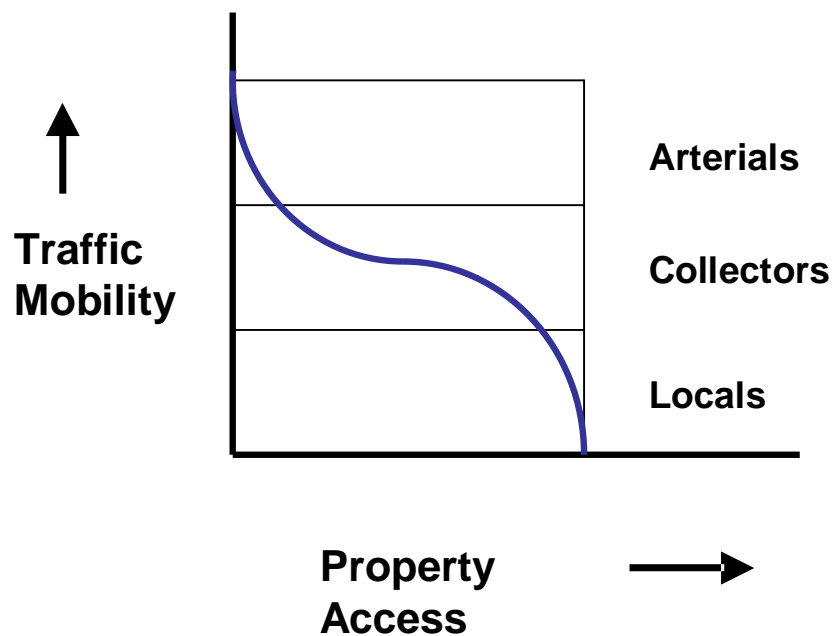
All highways and roads serve traffic mobility, land access, or a combination of both. The primary function of freeways is to serve mobility, so they have strict access control requirements. Local streets are primarily designed for lower traffic volumes and speeds to provide access to properties. Arterial and collector roads fall in between these extremes and require the balance of access vs. mobility.

Many of the best practices from around the country are presented in the *Transportation Research Board Access Management Manual* (TRB Manual). The TRB Manual is used as a master reference in this report because it focuses many of the ideas and practices into one document. Many of these practices will be highlighted and recommendations tailored to the needs of the City of Gahanna.

Importance and Benefits of Access Management

Access management techniques are an important part of maintaining the balance between traffic operations and access. Figure 7 is a common visual depiction of the relationship between traffic operations and access. Higher level roadways, such as freeways, have more access restrictions. Lower level roadways, such as local subdivision streets, have higher levels of access.

Figure 7
Mobility versus Land Access



Source: AASHTO Geometric Design of Highways and Streets, 2004

Providing the appropriate level of access by roadway type allows agencies to extend the usable “life” of the roadway, reduce traffic congestion and improve safety. Access management benefits all transportation system users and property owners in the area. The following list highlights access management benefits to various groups of stakeholders:

- Drivers
- Cyclists
- Pedestrians
- Local business
- Residents
- Cities

Problems in Areas with Poor Access Management

Roadway systems without access management typically have increased congestion and crashes at intersections and roadway segments. These areas typically have higher levels of traffic congestion associated with close driveway spacing and often high volume generators of traffic. While many businesses equate multiple driveway access points with more customers, surveys have found that customers often avoid the high congestion areas. Some of the negative impacts to a city when access is not well managed:

- Increases in crashes at driveways and intersections.
- More hazardous conditions for pedestrians and cyclists.
- Decreases in roadway and intersection capacity.
- Increases in cut-through traffic on local roads as drivers avoid arterial congestion.
- Difficulty entering and exiting area businesses due to close concentration of drives mixed with arterial traffic.

Typically, sections of roadway experience deteriorating access over time as businesses move to newer developments. Close driveway spacing and inadequate width (or depth) of driveways contribute to the access problems. Commercial strip areas can easily become areas with poor access management as fast-food and other quick turnover businesses become common.

Methods to Establish Access Management Policies

Access management is practiced by municipal governments, counties, and state agencies. While the implementation varies by agency, the focus is on planning, regulatory and design strategies. The TRB Manual provides some of the following methods to establish access management:

- Adopt community-wide policies, directives and/or guidelines.
- Develop local access management regulations and ordinances.
- Require acquisition of access rights, often an expensive alternative.
- Improve/enhance land development regulations.
- Foster development review and impacts assessment (agencies often assess a fee to the developer to build turn lanes or other improvements).
- Establish geometric design criteria for drives and intersections.

Agencies can develop area wide or corridor access management plans and programs. These are typically based on roadway classification based on function. Gahanna has the opportunity to establish this based on the thoroughfare plan roadway network. Options for access management techniques and policies for the City of Gahanna will be detailed in later sections of this report.

Access Management Guidelines

Managing access in a community requires a partnership between planning, zoning, and engineering departments. The engineering department also needs to maintain a relationship with the local MPO to be aware of planning and project development on a regional level that affects City operations.

Local access management programs can develop standards and criteria to be applied based on the roadway classification and land uses. The following types of standards can be developed as criteria to be met in an engineering department review:

- Distance between intersections.
- Traffic signal spacing.
- Minimum driveway spacing and depth of drive.
- Number of drives per property.
- Requirement for constructing turn lanes.

Local agencies are encouraged to establish an internal working group that may consist of planning, zoning, engineering, citizens and other representatives who will evaluate current access practices and recommend future plans for legislation. This committee could meet on an annual or bi-annual basis to determine if the City needs to update the access review process.

Access Management Programs

Most cities are constantly evaluating the need for access to properties versus the need for roadway mobility. Proper coordination between land uses and roadway networks provide mobility and access to business, commercial, retail and residential areas. Some of the typical practices that can be applied include:

- Specific definition of access by roadway classification.
- Limit direct access to high volume roadways.
- Define intersection hierarchy (similar to roadway classification).
- Define and protect the intersection functional area.
- Minimize the number of conflict points.
- Provide turn lanes and refuges to minimize conflicts with through traffic.
- Construct medians in select corridors to manage access and minimize conflicts.
- Provide an overall street network that supports mobility and access.

All of these items are highlighted in a separate report titled *City of Gahanna Access Management Guidelines*.

City of Gahanna Access Management Criteria

The City of Gahanna has a full range of roadway classifications within the area to provide both regional and local access. All access to the Interstate system is located on the west and southwest side of the City. The travel pattern for traffic accessing the regional highway system focuses on the major arterials, such as Hamilton Road, Granville Street and Morse Road. These roadways also serve local access within Gahanna and neighboring communities.

The recommended City of Gahanna Access Management Criteria is defined and included in a separate report titled *Access Management Guidelines* for the following roadways:

- Major Arterials.
- Minor Arterials.
- Collector Roads.
- Local Roads (mostly in residential areas).

Corridor Access Management Tools

Several corridor specific applications were described in this report as possible access management tools. The following are recommended for future implementation in the City of Gahanna.

- Median installation on sections of Granville Street and Hamilton Road.
- Two-way left turn lanes – continue installation on minor arterials and collectors as warranted.
- Backage Roads – potential installation on parts of Granville Street and Hamilton Road. This would need to be determined based on future property redevelopments.

Intersection and Driveway Access Management Tools

Several intersection and driveway applications were described in this report as possible access management tools. The following are recommended for future implementation in the City of Gahanna.

- Drive placement – review placement of intersection and drives to minimize conflicts between left turns.
- Install left or right turn lanes as warranted based on ODOT and City criteria (minimum storage length 100 feet, plus minimum approach taper of 50 feet, and minimum deceleration taper of 50 feet).

- Maintain corner clearance of drives outside the intersection functional area.
- Driveway channelization – install to restrict left turns onto arterial roadways.
- Joint and cross access – coordinate with redevelopments of properties with closely spaced drives.

Granville Street Access Management

The Granville Street corridor from Mill Street to Hamilton Road is part of the City's business district, with a 25 MPH speed limit. It has limited frontage and consists of small business and retail uses. The roadway congestion combined with close spacing of drives creates safety and access concerns. East of Hamilton Road, the roadway becomes Havens Corners Road and transitions from suburban to rural in character in Jefferson Township. Granville Street will likely remain a mix of developments, especially with the business district on the west side.

The following access management techniques are recommended for consideration by the City as part of a long range corridor plan for Granville Street.

- Follow the Access Management Criteria list for major arterials for any new access and property redevelopment.
- Establish an access management overlay district on Granville Street from Mill Street to Hamilton Road.
- Develop a long-term plan to install a median from Mill Street to Hamilton Road. The median can be decorative and urban in character to meet the development style in the business district.
- Develop a long-term access plan in conjunction with the median. This would include the installation of backage roads and driveway consolidation to reduce the number of direct access points on Granville Street.
- Develop a pedestrian crossing plan to encourage safe and walkable access to businesses.

Hamilton Road Access Management

The section of Hamilton Road at the I-270 interchange is a limited access highway under ODOT jurisdiction. It quickly transitions to a suburban roadway approaching Morrison Road. The Hamilton Road corridor is currently experiencing significant congestion from Morrison Road to north of the Rocky Fork Shopping Plaza. Even with some access restrictions on Hamilton Road, there are short driveway throats that create traffic congestion and internal circulation congestion within the strip shopping areas. From Clark State Road to E. Johnstown Road, Hamilton Road is residential. From E. Johnstown Road to Morse Road, Hamilton Road is suburban in character. The north section is currently under construction as a four lane roadway (with median) and the

remaining sections are recommended for widening to four lanes with a median and possible roundabouts (study underway).

The following access management techniques are recommended for consideration by the City as part of a long range corridor plan for Hamilton Road.

- Follow the Access Management Criteria list for major arterials for any new access and property redevelopment.
- Establish an access management overlay district on Hamilton Road from Morrison Road to Clark State Road. The initial stages can be implemented as part of the Granville Street and Hamilton Road intersection study.
- Develop a long-term plan to determine appropriate areas for median installation on Hamilton Road.
- Develop a long-term access plan in conjunction with the median. This could include the installation of backage roads and driveway consolidation to reduce the number of direct access points.
- Develop a pedestrian crossing plan to encourage safe and walkable access to businesses. This would be recommended from Morrison Road to Clark State Road and Beecher Road to Morse Road.

Chapter 5 – Developing Design Year Volumes

2001 Transportation Plan Network

The most recent Thoroughfare Plan Update for the City of Gahanna was completed in 2001 as an update to the previous plan (which was ten years old). The plan evaluated the growth potential in the City and outside City limits.

The 2001 Thoroughfare Plan included:

- Evaluation of existing conditions.
- Future conditions and forecasts.
- Evaluation based on standard and high land use, with two alternatives.
- Development of a Thoroughfare Plan for the City's roadway network.
- Evaluation of future roadway link capacities.
- Identification of high crash locations.

The 2001 plan considered two potential alternatives including the extension of Tech Center Drive and redevelopment and construction in the Triangle area. A high land use alternative was also considered that maximized growth in Gahanna, New Albany, Columbus and Jefferson Township.

Design Year Roadway Network

The design year roadway network used for the 2030 traffic volumes is based on the MORPC 2030 transportation network. The Gahanna City area has a significant area built out and some of the areas are now centers of redevelopment. Most of the new build and larger developments are located in areas with nearby interstate access via a major arterial.

The significant changes to the 2030 design network that are incorporated into the design year roadway network include:

- Construction of Tech Center Drive.
- Widening of Hamilton Road from Clark State Road to Johnstown Road (4 lane section).
- Widening of Havens Corners Road to two through lanes in each direction.
- Widening of Morrison Road from Tech Center Drive to Claycraft Road to two through lanes in each direction.

Growth Rates

The growth rates were prepared based on available data from the current Thoroughfare Plan and traffic volume counts provided by the City. The information was prepared as an update to the 2020 projections provided by MORPC in the 2001 study.

- Traffic volumes were obtained from the City and MORPC data for the Gahanna area street system. These volumes were projected to an “existing” year of 2006.
- The 2020 and 2030 land use data from MORPC reports were evaluated for the Gahanna area. The City of Gahanna is projected to have a small increase in population, with a larger increase in households. Most of the changes appear to be incorporated into the 2020 data. (MORPC has reported additional land use changes in the 2030 update).
- The 2020 traffic volumes from the current Thoroughfare Plan were reviewed. Growth rates were developed for the street links based on the 2006 volumes and the 2020 projections. These growth rates were also calculated on an average annual basis.
- Growth rates (at a maximum of 3% per year) were applied to the 2020 volume projections to develop 2030 volume projections. With the available data, a 2030 projection would involve too long a period of time for a straight line growth projection.
- The 2030 Design Year volumes are summarized in Chapter 6. A more detailed table will also be presented in the Thoroughfare Plan Report chapter.

Chapter 6 – Design Year Traffic Studies and Analysis

Design Year Traffic Volumes

The Design Year traffic volumes were developed based on 24-hour ADT volumes for the year 2030, shown in Figure 8. The projected ADT volumes per lane are used as the basis for determining the lane requirements on the thoroughfare plan network. This essentially determines a general capacity that can be used to evaluate the Design Year lane needs and is based on the following:

- The existing ADT data on the street system was evaluated to determine a general “k” factor for the street system (9.0%). The k factor is the proportion of the ADT occurring in the design hour and is used in capacity analysis.
- A directional distribution in the design hour was assumed to be 60%/40%. This number is applied to the two way design hour volume to estimate the proportion of traffic in each direction.
- The operating capacity of a roadway link was determined to be at level of service E (breakpoint between LOS E and F). This represents the general street system capacity, blended for Class II and Class III Roadways.
- Most roadways in the system are in the range defined by the Highway Capacity Manual as Class II or Class III. Class II roadways are typically in urban/suburban areas with traffic signals, moderate to medium development and speeds from 25 to 45 mph. Class III roadways are typically in urban/suburban areas with traffic signals, medium to high development and speeds from 35 to 45 mph. The calculation blended the two roadways to determine the surface street capacity.
- The calculated capacity for each through lane was determined to be 16,000 vehicles per day based on the above factors. The resulting lane capacities for the Thoroughfare Plan are shown in Table 3.

Table 3
2030 Design Year Surface Street Capacities

| Roadway | Description | Capacity (projected ADT) |
|---------|--|-----------------------------|
| 2 lane | One lane each direction, may include turn lanes | 16,000 |
| 4 lane | Two lanes each direction, plus turn lanes | 32,000 |
| 6 lane | Three lanes each direction, plus turn lanes | 48,000 + |

The development of Design Year volumes included projection of intersection volumes in the Granville Street and Hamilton Road corridor. This consisted of applying growth projections to the existing PM peak hour volumes at the intersections on the two major arterials. These volumes are estimates, since peak hour turning movement projections are not available.

On the streets designated as major or minor arterials, it is recommended that right-turn lanes be planned as part of any new intersection design. This would require the evaluation and potential acquisition of additional right-of-way under a new project design. Another consideration would be for the design of pedestrian facilities to include sidewalks and accessible ramps.

Design Year Capacity Analysis at Intersections

The intersection peak hour volumes were projected for the 2030 design hour. This was based on the 2030 ADT projections and the existing street system patterns at intersections. The 2030 Hamilton Road/Granville Street Network will be analyzed using Synchro software. Synchro allows for the interconnection and coordination of traffic signal timing on a roadway network. The software will allow the signals in the network to be evaluated as a coordinated system, and the output can be reported in the format of the Highway Capacity Software (HCS). The methodology of the signalized intersection analysis in the Highway Capacity Manual analyzes lane groups, intersection approaches, and the overall intersection approach.

For the 2030 design hour, there are several intersections that have unacceptable levels of service (level of service E or F) in the design hour as shown in Figure 9. The intersections include:

- Hamilton Road and I-270 south ramp.
- Hamilton Road and Rocky Fork South/Morrison Road.
- Hamilton Road and Rocky Fork Boulevard North.
- US 62 and Stygler/Agler (note: this intersection is under study).
- Hamilton Road and Granville Street.
- Hamilton Road and Clark State Road.

The high volumes of through traffic on Hamilton Road and portions of Granville Street contribute to the oversaturation of the intersections. Even with coordinated signal systems, high through volumes make it difficult to share green time effectively between the movements at an intersection.

It should be noted that these results are based on planning level numbers as an estimate of the conditions that may be anticipated during the design year. The results can not be substituted for actual traffic counts in the future or more detailed intersection projections that may be completed as part of a future design project. These would be needed to more accurately estimate the projected conditions as development and traffic change in the area over time.

The potential to widen any intersections is limited by the right-of-way available. In most cases within the City, it is difficult to add right turn lanes without additional right-of-way. There are also potential impacts based on the traffic signal location, pole sizing, and pedestrian accommodations. The placement of accessible ramps, sidewalks, crosswalks, and pedestals also has a significant impact on intersection design. Additionally, widening can make intersections more dangerous and needs to be evaluated on a case by case basis.

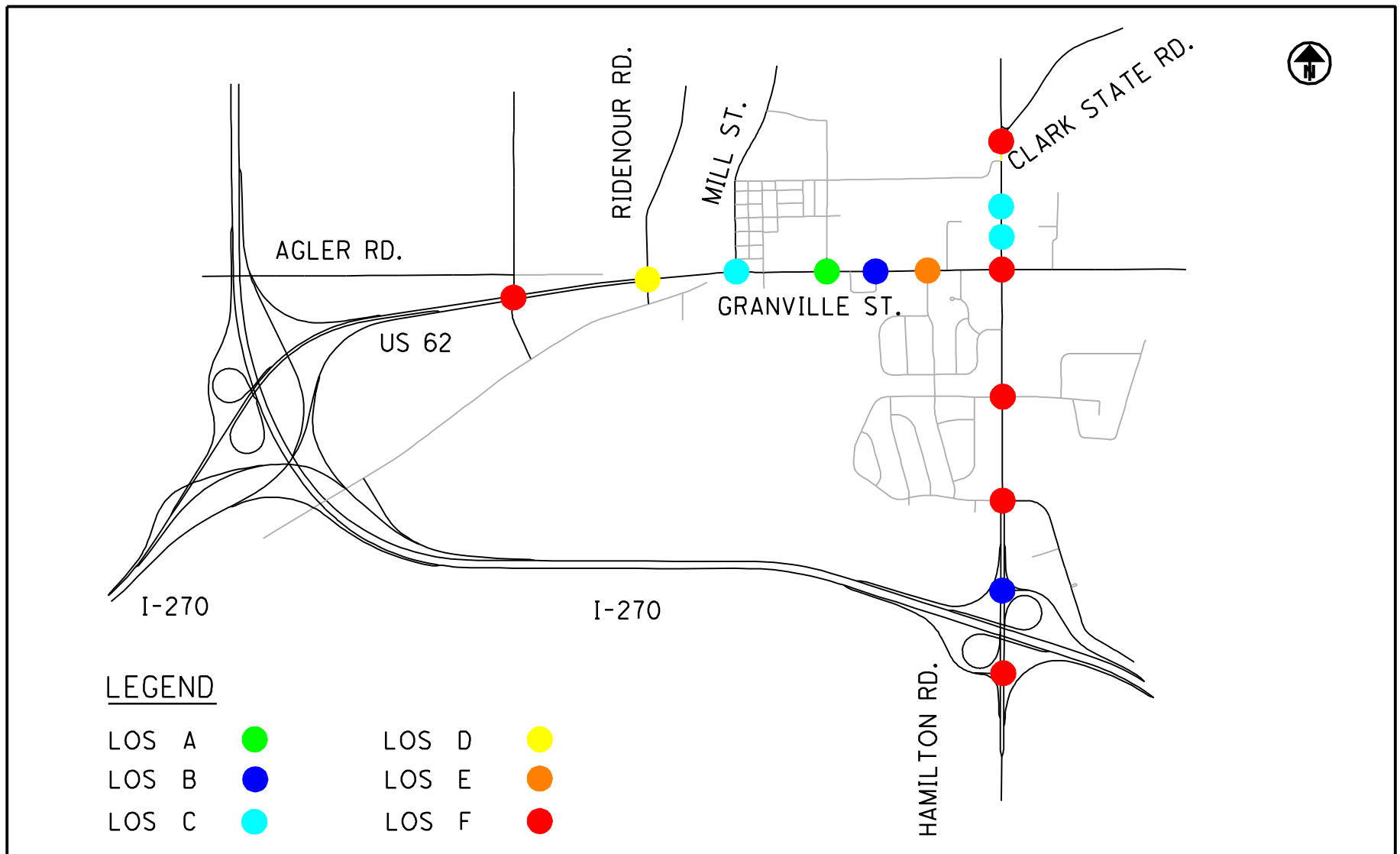


Figure 9
2030 No Build Design Hour Level of Service Map

2030 Design Year Roadway System

The design year roadway system was evaluated based on the number of through lanes and roadways included in the regional transportation plan. The roadway system number of lanes is shown in Figure 10. The following describes the general configuration of the roadways in the design year.

- 1/1 – streets with one through lane in each direction. These may include turn lanes at select locations.
- 1/1T – streets with one through lane in each direction and a two-way left turn lane. Left and right turn lanes may also be located at intersections.
- 2/2T – streets with two through lanes in each direction and a two-way left turn lane. Left and right turn lanes may be located at intersections and major drives.
- 2/2D – streets with two through lanes in each direction and a median. Left and right turn lanes are located at intersections. Turn lanes may also be included at major drives. This provides a higher level of access management, especially for Major Arterials.
- 3/3D – streets with three through lanes in each direction and a median. Left and right turn lanes are located at intersections. Turn lanes may also be included at major drives. This provides a higher level of access management, especially for Major Arterials.

The design year roadway system was evaluated based upon using the methodology from the existing conditions evaluation. This created a volume-to-capacity for the roadway links based on the average daily traffic volumes and the design year number of lanes. This evaluation uses a planning level of analysis to determine a general level of capacity for through roadways. The evaluation is based on the daily volume to capacity for the roadway based on through lane capacity.

- A volume to capacity (V/C) ratio of less than 0.80 represents a roadway that operates efficiently throughout the day and during the peak hour. There may be times where roadway links and intersections experience some congestion.
- A V/C ratio of 0.80 to 1.00 represents roadways that experience increased congestion at several times throughout the day. High levels of roadway and intersection congestion are present during the AM and PM peak hours.
- A V/C ratio over 1.00 represents roadways that experience failing levels of service for segments and intersections during the peak hour and at other times of day.

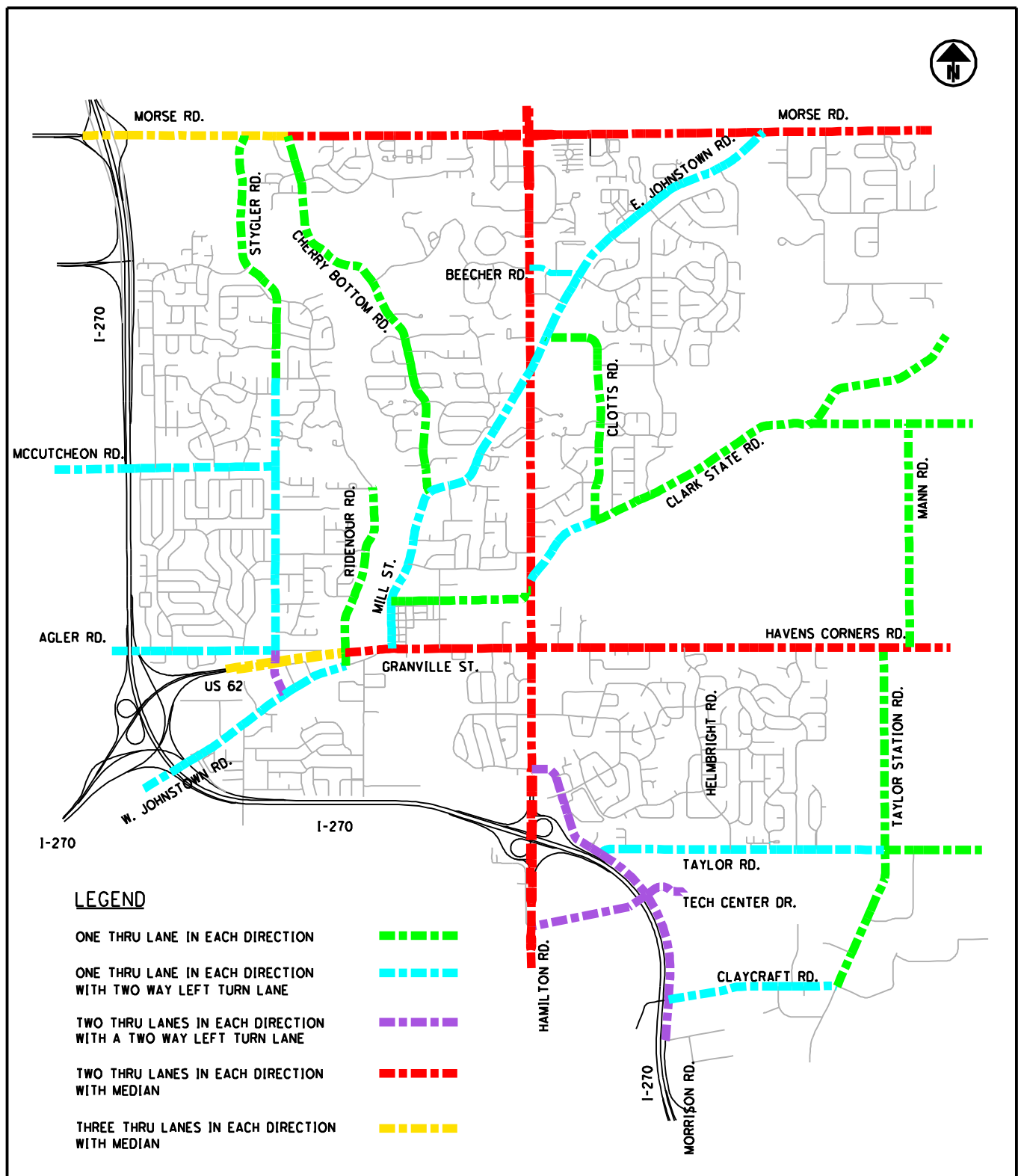


Figure 10
2030 Roadway System Number of Lanes

The results of the 2030 design year evaluation are shown in Figure 11. As with the existing conditions, these are planning levels of evaluation for the roadway system. There are several segments that are over capacity on the networks. Most of these are major arterials within the roadway system that connect to the interstate system.

Table 4 provides a listing of the roadways with the average daily traffic resulting in a volume-to-capacity ratio of over 1.0. These are planning levels of capacity, but they are roadways that experience higher levels of congestion at various times during the day. The evaluation portion of Table 4 provides recommendations to improve operating capacity on the roadway segments.

*Table 4
Roadway Segments with Volume-to-Capacity Levels Greater than 1.0*

| <i>Roadway Segment</i> | <i>Evaluation</i> |
|---|--|
| E. Johnstown Road Hamilton Road to Morse Road | The v/c ratio is greater than 1.0, but the operation of the roadway links is anticipated to be acceptable most of the day. |
| US 62/Granville Street I-670 to Hamilton Road | A 3/3D section is recommended from I-670 to Ridenour (within the limited access area). The remaining section is recommended for median installation |
| Hamilton Road South of I-270 to Morse Road | A median is recommended for the entire length. Sections will still have v/c over 1.0, but may not reach the projected volumes |
| Havens Corners Road Hamilton Road to Helmbright Road | A 2/2D section is recommended from Hamilton road to Helmbright Road |
| Mill Street Granville Street to E. Johnstown Rd | The v/c ratio is greater than 1.0, but the operation of the roadway links is anticipated to be acceptable |
| Morse Road I-670 to Harlem Road | A 3/3D section is recommended from I-270 to Cherry Bottom Road (Columbus section). Some sections will still have v/c over 1.0, but may not reach the projected volumes. The remaining section is recommended as 2/2D |
| Taylor Road Morrison Road to Taylor Station Road | A 2/2T section is recommended from Morrison Road to Taylor Station Road |

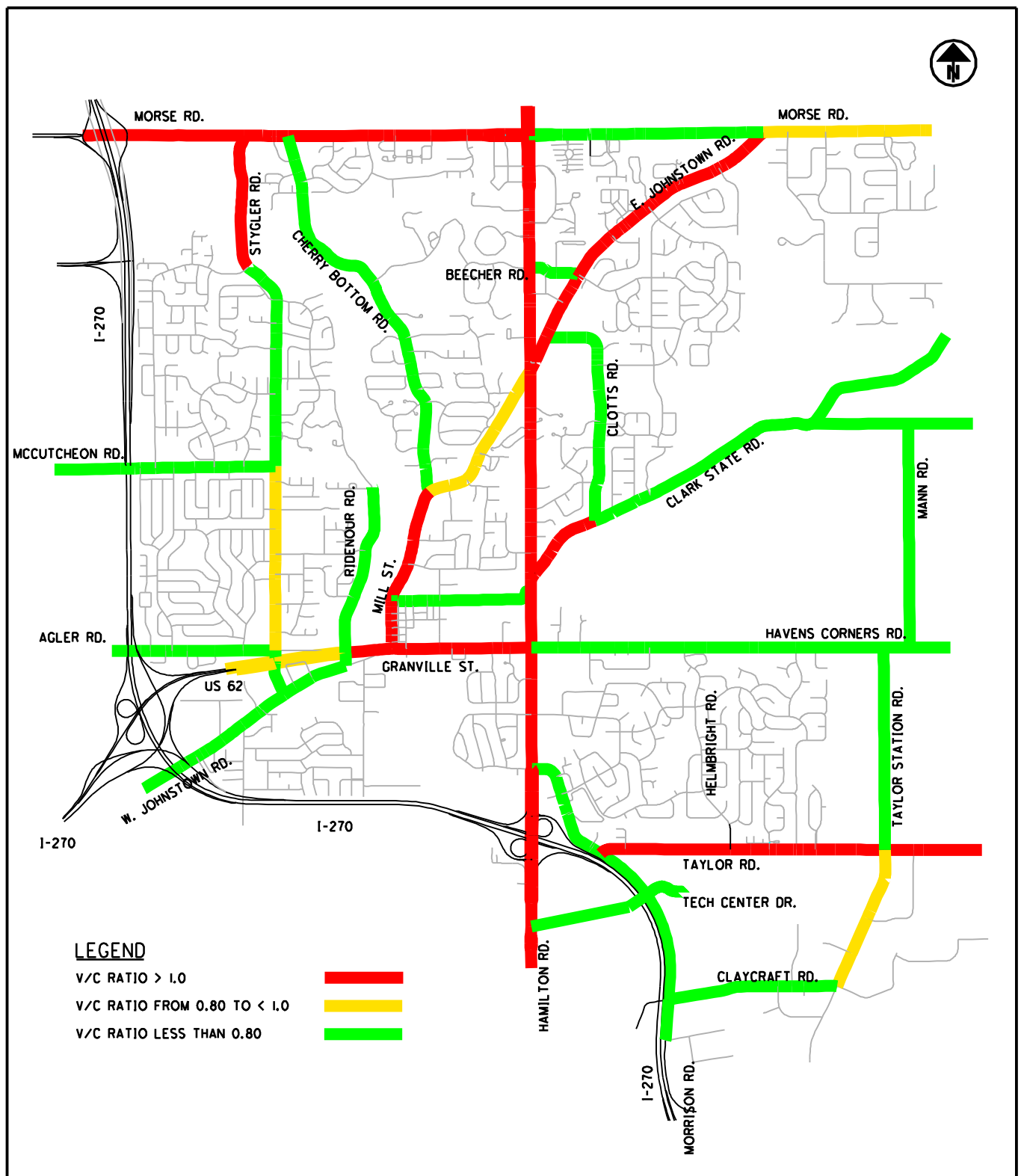


Figure II
2030 Design Year Congestion Map

Chapter 7 – Gahanna Thoroughfare Plan

Existing Thoroughfare Plan Revisions

A summary of the existing roadway characteristics was included in Chapter 1. The roadway system included the roadway classification from the 2001 Thoroughfare Plan. Table 5 presents several roadways for reclassification as part of this Thoroughfare Plan update.

Morrison Road is proposed as a Minor Arterial due to the increase in connectivity from the Tech Center Drive extension. The other roadways are proposed to be reclassified as local roadways. This is in conjunction with the speed limit and zoning of the area as residential. The 25 MPH speed limit combined with the residential nature of the roadways should result in the local roadway classification. These roadways should be seen as residential and cut-through traffic should be discouraged.

*Table 5
Proposed Roadway Classification Revisions*

| <i>Segment</i> | <i>Section</i> | <i>Existing Classification</i> | <i>Proposed Classification</i> |
|-------------------|-------------------------------------|--------------------------------|--------------------------------|
| Hines Road | McCutcheon Rd to Wendler Blvd | Collector | Local |
| Lincolnshire Road | Agler Rd to Wendler Blvd | Collector | Local |
| Morrison Road | Tech Center Drive to Waterbury Blvd | Collector | Minor Arterial |
| Helmbright Road | Taylor Road to Helmbright Rd | Collector | Local |
| Shull Road | Headley Rd to Morse Rd | Collector | Local |
| Chapelfield Road | Stygler Rd to Ridenour Rd | Collector | Local |
| Headley Road | Shull Rd to Clark State Rd | Collector | Local |

Functional Classification of Roadways

Highway and street systems form an interconnected network across jurisdictional boundaries to serve the transportation needs of the region. Roadway systems need to provide traffic mobility or land access, with many systems providing some combination of both. Roadways within the City of Gahanna and the adjacent municipalities are urban in character. The roadway system in Jefferson Township has maintained a rural character. The most significant difference between urban and rural is the density of land use and resulting volume of traffic.

The following definitions are presented for each classification of roadway in the Gahanna Thoroughfare Plan network. The standard industry definitions have been referenced with information from the Ohio Department of Transportation and MORPC:

Interstate Highways have full access control and limited points of entry at interchanges. The speed limits on the area Interstates (I-270 and I-670) are 65 MPH. Gahanna has interchanges at Morse Road, Easton Way, US 62 and Hamilton Road accessing both highways.

Major arterials typically serve major activity centers with higher traffic volumes and longer trips. They serve travel within the Gahanna area and connect to regional roadway networks. Major arterials are recommended to minimize access to promote a higher level of mobility. They also provide a critical connection to minor arterials and collector routes. Major arterials will vary in width according to traffic volume and often have more than four through lanes (with turn lanes).

Minor arterials have a higher degree of access and provide an interconnection between major arterials and collectors. Trip length will be shorter and at a lower level of service than major arterials. Minor arterials typically are not wider than four lanes (with turn lanes).

Collector roads serve both mobility and land access within the Gahanna area network. They are an important link between the arterial system and local streets, and provide access to residential and commercial areas. Typically, collectors will have two through lanes (with turn lanes), but this could vary based on traffic volume.

Local roads will not be defined under the Thoroughfare Plan. They are designed to provide direct land access from higher level roadways and should not carry through traffic.

Development of the Roadway Network

The roadway network for the Thoroughfare Plan Update was developed based on extensive evaluation and analysis of the Gahanna area roadway system. This included evaluation of the following:

- Review and evaluation of the 2001 Thoroughfare Plan Update.
- Review and evaluation of the existing roadways and intersections within the City.
- Review of the City's zoning plans and major planned developments.
- Development of proposed design year volumes and future roadway system operations.
- Determination of the characteristics of the proposed Thoroughfare Plan Update.

Proposed Gahanna Thoroughfare Plan

The proposed Gahanna Thoroughfare Plan network is shown in Figure 12. The following are highlights of the Thoroughfare Plan:

- The roadway system is defined by hierarchy based on the roadway classification. This includes Interstates/Freeways, Major Arterials, Minor Arterials and Collectors. Neighborhood and local roadways are not identified in the plan.
- The classification system of neighboring communities was reviewed. The classification of connecting roadways was coordinated.
- The Major Arterials (Hamilton Road, Granville/Havens Corners and Morse Road) serve as direct links to the interstate system. They also provide connectivity within the City and neighboring communities.

The details of the Thoroughfare Plan roadways system are shown in Table 6. The table provides a detailed summary of the functional classification, estimated average daily traffic, number of lanes and existing right-of-way. This information was evaluated for the design year and recommendations are included under the columns for design year number of lanes and right-of-way.

Additional details are included in Appendix C. This includes proposed typical sections by roadway classification and number of lanes. The typical sections also show recommendations for placement of multi-use paths and sidewalks.

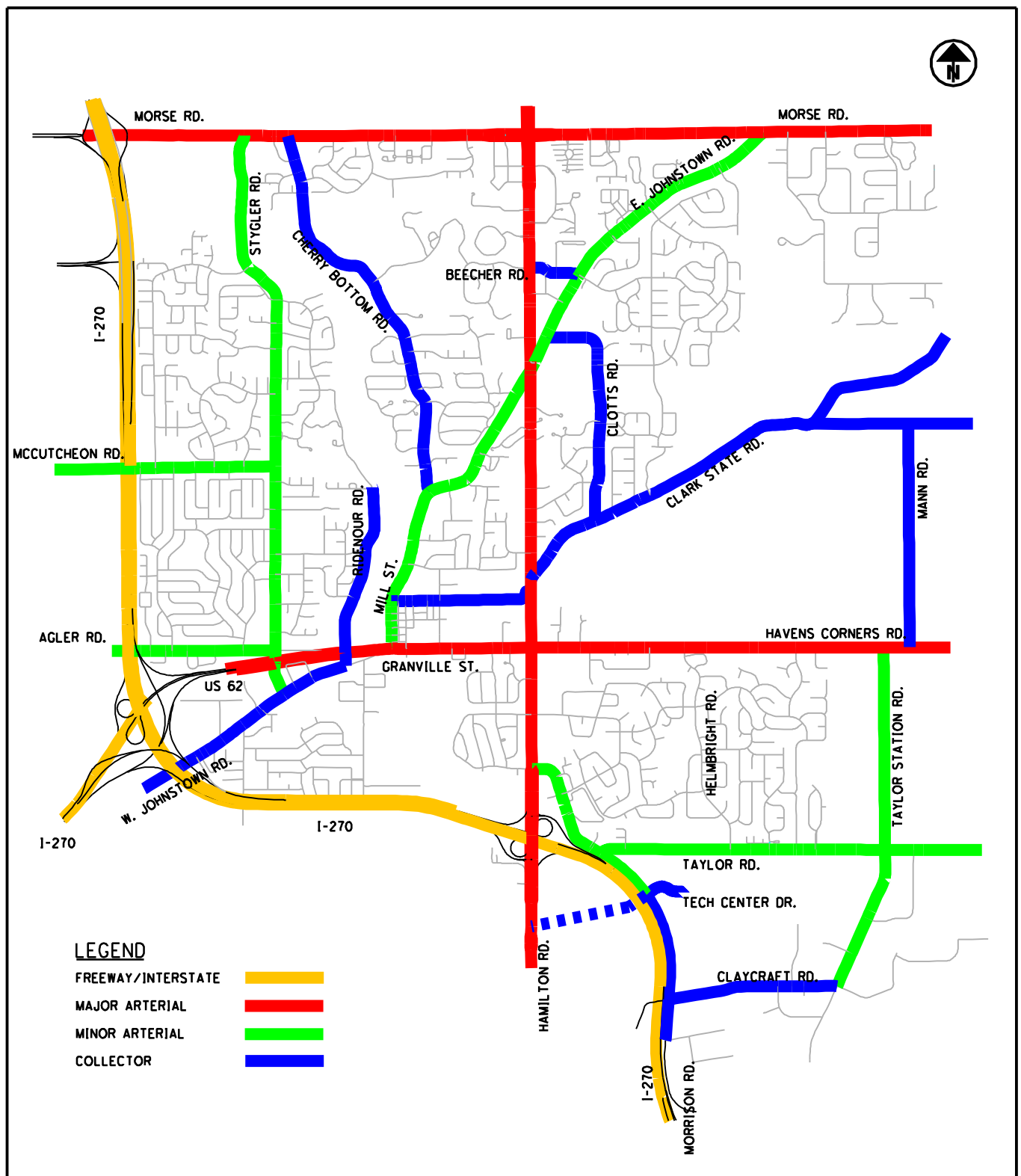


Figure 12
Thoroughfare Plan Map

Table 6

2030 Design Year Thoroughfare Plan Roadways

| <i>Segment</i> | <i>From</i> | <i>To</i> | <i>Jurisdiction</i> | <i>Existing Lanes</i> | <i>Existing ROW</i> | <i>Functional Classification</i> | <i>Estimated 2030 ADT</i> | <i>2030 Lanes</i> | <i>2030 Prop. ROW</i> |
|------------------------|---------------------|---------------------|---------------------|-----------------------|---------------------|----------------------------------|---------------------------|-------------------|-----------------------|
| Agler Road | Stelzer Road | Stygler Road | Columbus/Gahanna | 1/1T | 50'-80' | Minor Arterial | 12,500 | 1/1T | 80' |
| Beecher Road | Hamilton Road | Johnstown Road | Gahanna | 1/1T | 50'-60' | Collector | 6,500 | 1/1T | 80' |
| Carpenter Road | Mill Street | Hamilton Road | Gahanna | 1/1 | 50' | Collector | 2,000 | 1/1 | 60' - 80' |
| Cherry Bottom Road | Mill Street | Academy Woods Dr | Gahanna | 1/1 | 80' | Collector | 5,500 | 1/1 | 80' |
| | Academy Woods Dr | Morse Road | Gahanna | 1/1 | 80' | Collector | 7,600 | 1/1 | 80' |
| Clark State Road | Hamilton Road | Clotts Road | Gahanna/Franklin Co | 1/1 | 80' | Collector | 16,800 | 1/1T | 80' |
| | Clotts Road | Darling Road | Gahanna/Franklin Co | 1/1 | 80' | Collector | 12,300 | 1/1 | 80' |
| Claycraft Road | Morrison Road | Taylor Station Road | Gahanna | 1/1 | 60' | Collector | 3,100 | 1/1T | 60' |
| Clotts Road | Clark State Road | Johnstown Road | Gahanna | 1/1 | 40' | Collector | 4,000 | 1/1 | 60' |
| E. Johnstown Road | Mill Street | Hamilton Road | Gahanna | 1/1 | 60' | Minor Arterial | 13,700 | 1/1T | 80' |
| | Hamilton Road | Beecher Road | Gahanna | 1/1T | 75'-80' | Minor Arterial | 25,200 | 1/1T | 80' |
| | Beecher Road | Riva Ridge Road | Gahanna | 1/1 | 75'-80' | Minor Arterial | 25,700 | 1/1T | 80' |
| | Riva Ridge Road | Morse Road | Gahanna/Franklin Co | 1/1 | 80' | Minor Arterial | 25,700 | 1/1T | 80' |
| Granville Street/US 62 | Stygler Road | Ridenour Road | Gahanna | 2/2D | 90'-110' | Major Arterial | 47,600 | 3/3D | 130' |
| | Ridenour Road | Mill Street | Gahanna | 2/2T | 90'-110' | Major Arterial | 33,900 | 2/2D | 120' |
| | Mill Street | Hamilton Road | Gahanna | 2/2T | 90'-110' | Major Arterial | 33,900 | 2/2D | 120' |
| Hamilton Road | I-270 | Morrison Road | Columbus/Gahanna | 2/2D | 100' | Major Arterial | 57,700 | 2/2D | 120' |
| | Morrison Road | Rocky Fork Drive N | Gahanna | 2/2T | 100' | Major Arterial | 42,500 | 2/2D | 120' |
| | Rocky Fork Drive N | Granville Street | Gahanna | 2/2T | 100' | Major Arterial | 42,500 | 2/2D | 120' |
| | Granville Street | Clark State Road | Gahanna | 2/2T | 100' | Major Arterial | 49,300 | 2/2D | 120' |
| | Clark State Road | Johnstown Road | Gahanna | 1/1 | 100' | Major Arterial | 39,900 | 2/2D | 120' |
| | Johnstown Road | Beecher Road | Gahanna | 2/2D | 100' | Major Arterial | 34,700 | 2/2D | 120' |
| | Beecher Road | Morse Road | Gahanna | 2/2D | 100'-110' | Major Arterial | 43,100 | 2/2D | 120' |
| Havens Corners Road | Hamilton Road | Helmbright Road | Gahanna | 1/1 | 60'-80' | Major Arterial | 25,000 | 2/2D | 120' |
| | Helmbright Road | Taylor Station Road | Gahanna/Franklin Co | 1/1 | 60'-80' | Major Arterial | 25,000 | 2/2D | 120' |
| | Taylor Station Road | Reyn.-New Albany Rd | Franklin Co. | 1/1 | 60'-80' | Major Arterial | 16,700 | 2/2D | 120' |
| Havens Road | Clark State Road | Mann Road | Franklin Co. | 1/1 | 60' | Collector | 6,400 | 1/1 | 60' |

Table 6 (Cont.)

2030 Design Year Thoroughfare Plan Roadways (Cont.)

| <i>Segment</i> | <i>From</i> | <i>To</i> | <i>Jurisdiction</i> | <i>Existing Lanes</i> | <i>Existing ROW</i> | <i>Functional Classification</i> | <i>Estimated 2030 ADT</i> | <i>2030 Lanes</i> | <i>2030 Prop. ROW</i> |
|---------------------|---------------------|---------------------|---------------------|-----------------------|---------------------|----------------------------------|---------------------------|-------------------|-----------------------|
| Mann Road | Havens Corners Road | Clark State Road | Franklin County | 1/1 | 55'-60' | Collector | 7,100 | 1/1 | 60' |
| McCutcheon Road | Stelzer Road | Stygler Road | Columbus/Gahanna | 1/1T | 60' | Minor Arterial | 6,000 | 1/1T | 80' |
| Mill Street | Granville Street | Carpenter Road | Gahanna | 1/1T | 60' | Minor Arterial | 17,700 | 1/1T | 80' |
| | Carpenter Road | Cherry Bottom Road | Gahanna | 1/1 | 60' | Minor Arterial | 17,700 | 1/1T | 80' |
| Morrison Road | Claycraft Road | Tech Center Drive | Gahanna | 1/1 | 80' | Collector | 22,600 | 2/2T | 100' |
| | Tech Center Drive | Taylor Road | Gahanna | 2/2T | 80' | Minor Arterial | 22,600 | 2/2T | 100' |
| | Taylor Road | Hamilton Road | Gahanna | 2/2T | 80' | Minor Arterial | 23,400 | 2/2T | 100' |
| Morse Road | I-270 | Stygler Road | Columbus | 2/2T | 120' | Major Arterial | 61,600 | 3/3D | 130' |
| | Stygler Road | Cherry Bottom Road | Columbus | 2/2T | 120' | Major Arterial | 58,600 | 3/3D | 130' |
| | Cherry Bottom Road | Hamilton Road | Columbus | 2/2T | 110'-120' | Major Arterial | 48,700 | 2/2D | 120' |
| | Hamilton Road | Underwood Farms Dr | Columbus | 1/1 | 80'-120' | Major Arterial | 40,600 | 2/2D | 120' |
| | Underwood Farms Dr | Johnstown Road | Columbus | 1/1 | 60'-80' | Major Arterial | 21,400 | 2/2D | 120' |
| | Johnstown Road | Harlem Road | Columbus | 1/1 | 60'-80' | Major Arterial | 23,200 | 2/2D | 120' |
| Ridenour Road | Johnstown Road | Chapelfield Road | Gahanna | 1/1 | 60' | Collector | 5,700 | 1/1 | 60' |
| Stygler Road | Johnstown Road | US 62 | Gahanna | 1/1T | 60' | Minor Arterial | 12,500 | 2/2D | 120' |
| | US 62 | Agler Road | Gahanna | 2/2 | 80' | Minor Arterial | 14,900 | 2/2 | 120' |
| | Agler Road | McCutcheon Road | Gahanna | 1/1T | 80' | Minor Arterial | 15,900 | 1/1T | 80' |
| | McCutcheon Road | Ridenour Road | Gahanna | 1/1T | 80' | Minor Arterial | 11,500 | 1/1T | 80' |
| | Ridenour Road | Morse Road | Gahanna/Columbus | 1/1T | 80' | Minor Arterial | 16,300 | 1/1T | 80' |
| Taylor Road | Morrison Road | Taylor Station Road | Gahanna/Franklin Co | 1/1T | 50'-80' | Minor Arterial | 21,200 | 1/1T | 80' |
| | Taylor Station Road | Eastgate Pkwy | Gahanna/Franklin Co | 1/1 | 50'-80' | Minor Arterial | 16,500 | 1/1 | 80' |
| Taylor Station Road | Claycraft Road | Taylor Road | Gahanna/Franklin Co | 1/1 | 50'-80' | Minor Arterial | 12,800 | 1/1T | 80' |
| | Taylor Road | Havens Corner Road | Franklin County | 1/1 | 50'-80' | Minor Arterial | 10,500 | 1/1 | 80' |
| Tech Center Drive | Morrison Road | Pizzuro Park Dr | Gahanna | 1/1 | 80' | Collector | 22,700 | 2/2T | 100' |
| W. Johnstown Road | Stygler Road | Ridenour Road | Gahanna | 1/1 | 60' | Collector | 8,400 | 1/1T | 60' |

Staging of Improvements

The cost and impact of infrastructure improvements can range from simple maintenance to complex roadway/bridge construction. The City of Gahanna has a Capital Improvement Plan to identify infrastructure needs in the near-term (five to ten years) and assist in developing funding sources. MORPC has both a near-term Transportation Improvement Program (TIP) and a long-range plan to identify regional needs (compiled by community).

The most significant improvement in the City that is currently under study is the widening of Hamilton Road between Clark State Road and Johnstown Road. Other improvements include the planned extension of Tech Center Drive to Morrison Road.

Some of the recommended items to consider in staging improvements include:

- Maintain a division of funds between maintenance and roadway improvements. It may also be useful to consider a category for minor intersections improvements, such as signalization modifications or addition of turn lanes.
- Prioritize planned improvements based on capacity and safety needs.
- Setup a matrix for phasing improvements over a number of years by category. This can be set up in five year “windows”.
- Identify a list of potential funding sources by project category. Specialized funding such as ODOT safety funds can be pursued to assist in intersections and segments with safety problems.

Chapter 8 – Policies and Standards Updates

Thoroughfare Plan

The Thoroughfare Plan Update evaluated a variety of elements such as: the existing roadway network, land use planning, future traffic volumes and the design year roadway network. The plan identifies future requirements for right-of-way and preserving corridors prior to development.

The goal of the Thoroughfare Plan Update is to provide a living document to assist the City with future roadway planning and land development. As the City continues to grow, it will be important to evaluate current and future needs. In recent years, the City has performed a major update of the Thoroughfare Plan every five years. At this point in time, it is recommended that the City of Gahanna have the Thoroughfare Plan formally evaluated every ten years and perform a general review every five years.

Items to be reviewed should include the following:

- Identify any zoning changes or proposed developments that may significantly impact the roadway network.
- Review and evaluate the MORPC long range plan and TIP for potential impacts to the City of Gahanna. This may include impacts from planned infrastructure improvements in surrounding communities.
- Evaluate the roadway classification, right-of-way and number of lanes (based on development changes or changes in the MORPC Plan). This could include changes in travel or technology that may impact the roadway system (could include necessary increases or decreases in major roadway system capacity).
- Review Access Management checklist.
- Review Traffic Impact Study checklist and sample table of contents.
- Review Speed Limit Map.

Additional details follow for access management, safety and traffic impact study evaluation.

Access Management

Access Management is an efficient way of dealing with the problems associated with traffic congestion and safety caused by motorists turning at driveways and intersections. The goal of the access management evaluation in the City of Gahanna was to provide guidelines to assist the City in developing standard applications for placement of drives and intersections that can be applied to the roadway system. The overall goal is to balance access and mobility based on the classification of roadway.

Summary recommendations for the City are included in the Access Management Guidelines and include a checklist for reviewing development plans. The review and documentation of the access management plan was comprehensive and provided tools for implementation. It is recommended the City review the checklist on a five year basis, concurrent with the Thoroughfare Plan review.

Traffic Impact Studies

Traffic impact studies provide the following guidance to a city when evaluating proposed development plans:

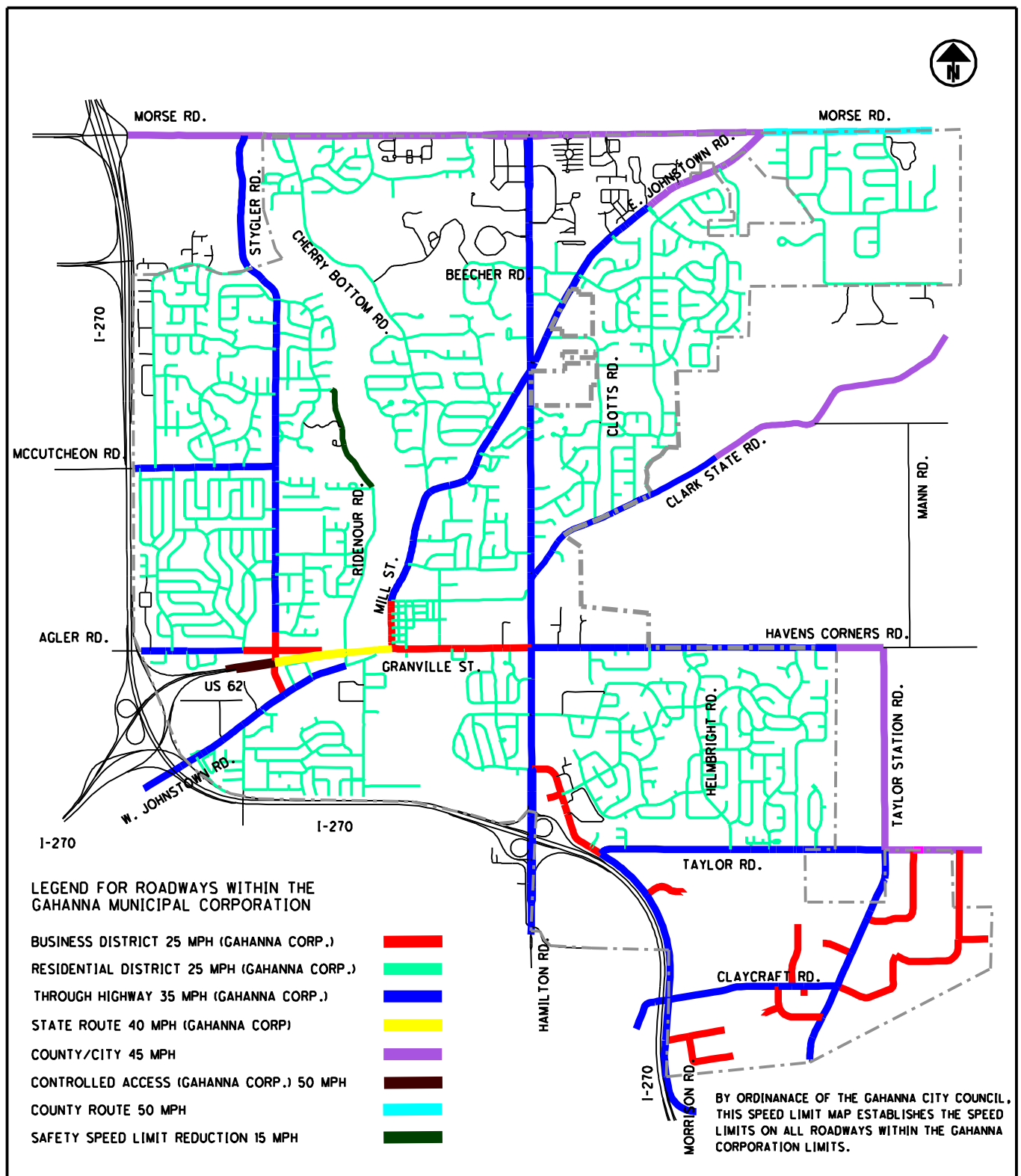
- Evaluating the traffic generated by a new development and the ability to accommodate new traffic within the existing transportation system.
- Evaluate proposed site access and driveway location for safety.
- Identifying any improvements beyond current planned projects that would need to be constructed to accommodate the new development.
- Provide guidance to City officials on a fair way to evaluate traffic impacts and determine funding participation by the developer.

The goal of the transportation impact study is to provide an objective evaluation of the proposed development on the adjacent roadway/intersection. The Traffic Impact Study Guidelines provide a methodology for preparing and evaluating traffic impact studies. This is based on recommended industry practice. The report includes a sample table of contents, checklist and evaluation form (for the traffic impact study). It is recommended the City review the checklist and evaluation form on a five year basis, concurrent with the Thoroughfare Plan review.

Speed Limit Evaluation

The majority of the roadway system located within the City limits is under municipal control for determining speed limits. The City followed the Ohio Revised Code when determining the speed limits within the City street system. There are situations where the speed limits may be changed due to safety concerns. These are primarily due to potential geometric restrictions on the roadway system.

The City of Gahanna has well defined speed limits tracked in the GIS system that are appropriate and reasonable for the area roadway conditions. Figure 13 provides the speed limits for the City of Gahanna. The speed limit map is developed for City Council approval of speed limits within the City. It is recommended the City review the speed limit map on a five year basis, concurrent with the Thoroughfare Plan review.



City of Gahanna Thoroughfare Plan

Revised October 22, 2007

Figure 13
City of Gahanna Speed Limit Map

Chapter 9 – Summary and Conclusions

The City of Gahanna Thoroughfare Plan was designed to provide a comprehensive evaluation of the City's transportation network for current and long-term (design year) conditions. The conclusions of the study are based on the fact that while much of the area in the City limits is built-out, there are many areas that are anticipated to be redeveloped and surrounding growth outside Gahanna's jurisdiction that is yet to be recognized.

The Thoroughfare Plan evaluation confirms that traffic growth is projected to continue and it is not practical to "build out" of congestion. The cost and community impacts of any future improvement projects will need to be an integral part of the City's transportation plan. The City of Gahanna will benefit from methods to maximize the operation of the current and planned roadway system. An effective way to balance these needs is to apply a toolkit of congestion management techniques, such as:

- Roadway demand management.
- Roadway operational management.
- Roadway capacity improvements.

Roadway demand management techniques involve several potential applications that work to actively manage the demand for roadway travel. Recommended techniques for the City of Gahanna to consider include:

- Implementing the Traffic Impact Study Guidelines to manage developments as they interface with the street system.
- Adopting smart growth policies as part of the comprehensive plan.
- Promoting pedestrian and bicycle connectivity when possible, especially for roadway reconstruction or widening projects.
- Developing transit stops and shelter to improve accessibility and promote ridership.
- Encouraging area employers to offer alternative/flextime scheduling.

Roadway operational management focuses on maximizing the efficiency of the existing roadway network and planned network, such as the design year 2030 roadway system. These techniques can be applied on a citywide corridor, roadway section or intersection. Recommended techniques for the City of Gahanna to consider include:

- Implementing the Access Management Guidelines for the City to manage corridors and promote safe and efficient access to the roadway system.
- Planning signal timing and optimization projects to improve safety and reduce operational delay.
- Designing intersection improvements at select locations for capacity and safety improvements. This could include turn lanes, pedestrian improvements and other isolated roadway improvements.
- Designing geometric improvements with rehabilitation projects for a safer and more efficient roadway.
- Coordinating incident management policies with the Gahanna Police Department to handle crashes on the roadway system.

Roadway capacity improvements are the traditional widening, reconstruction, and new roadway projects needed to accommodate the growth and economic development needs of the City. These projects are identified as part of the 2030 design year network and include the following categories:

- Additional lanes and/or roadway widening.
- Installation of two-way left turn lanes.
- Median installation.

In addition to the congestion management techniques detailed, the study produced the several recommendations that are identified by category.

Thoroughfare Plan recommendations:

- Reclassify residential roadways as local roads and remove from the Thoroughfare Plan.
- Implement proposed right-of-way widths as part of roadway modification and reconstruction projects.

- While right-of-way needs are based on planned lane needs, the intersection layouts must be considered in actual design. Intersections often have additional turn lanes, handicap ramps, pedestrian/bike facilities, traffic signal equipment and utilities that may require additional right-of-way.

Roadway capacity and operations recommendations:

- Prepare a strategy for increased congestion on the arterial roadway by implementing transportation management techniques along with planned capacity improvements.
- The City should plan to design medians on Granville Street and Hamilton Road. This will assist with Access Management and improve corridor safety. The City should also work on this concept for Morse Road in coordination with the City of Columbus and Village of New Albany.

City policy and standards recommendations:

- The City Council should adopt and legislate the updated Thoroughfare Plan and associated documents.
- As part of the Thoroughfare Plan, the City should incorporate the Bike Plan as an addendum to the Thoroughfare Plan.
- The City should adopt the Access Management and Traffic Impact Study Guidelines to assist the Engineering Department in maintaining roadway operations and safety while still providing for growth and development.
- The City should adopt the Speed Limit Map as legislation. This will provide the delineation of all speed limits within the Gahanna Corporation limits. The plan also would need to be approved by the Ohio Department of Transportation.

The City of Gahanna will need to continue to develop partnerships with Franklin County, Columbus, New Albany, and Jefferson Township. This will assist in developing safe and efficient roadways shared between jurisdictions.

The Gahanna Thoroughfare Plan presents a feasible plan for the long-term development of the City's roadway system. The improvements are proposed at a planning level of development. Additional engineering studies and analysis would need to be completed for the specific corridor or roadway when improvements are being considered. The improvements proposed in the Thoroughfare Plan Report will positively impact traffic operation in the City and enhance the quality of life for the City's residents.

City of Gahanna

Thoroughfare Plan Report

Appendices

by

DMJM Harris, Inc.
2800 Corporate Exchange Drive, Suite 300
Columbus, Ohio 43231

November 21, 2006

Appendix A

Existing Roadway System Lane Configuration Summary

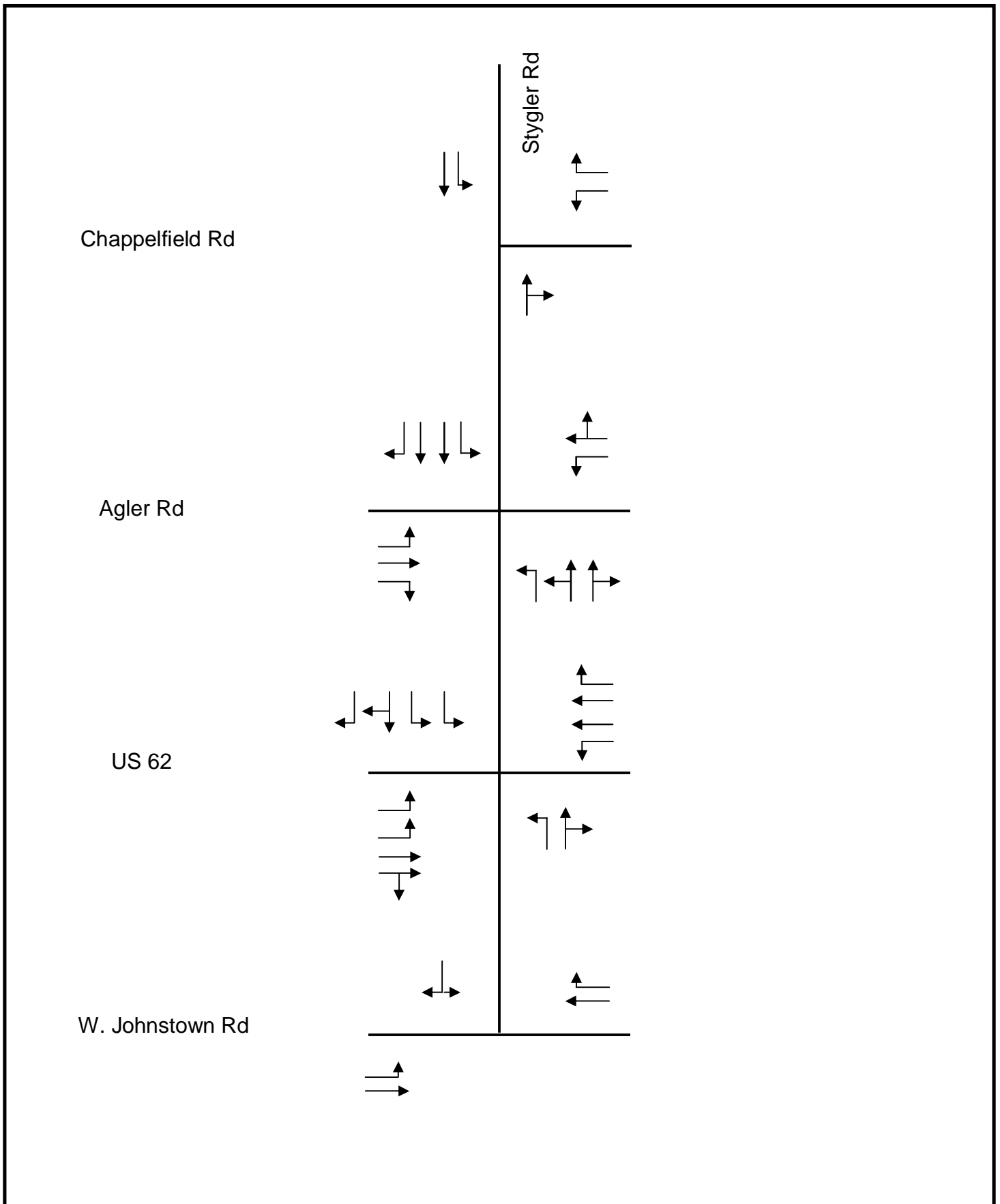


Figure A-1
Existing Lane Configurations – Stygler Road

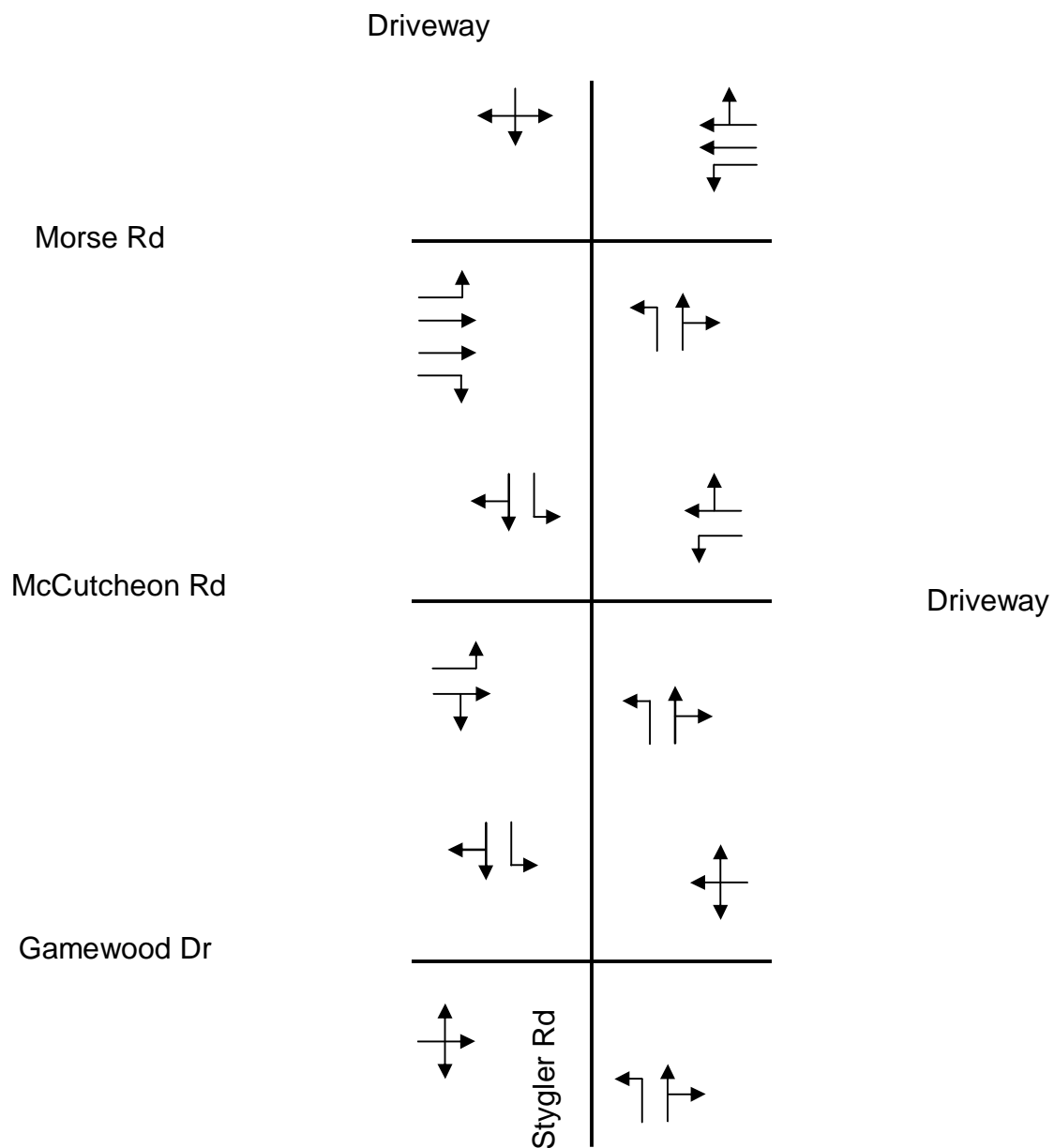


Figure A-2
Existing Lane Configurations – Stygler Road

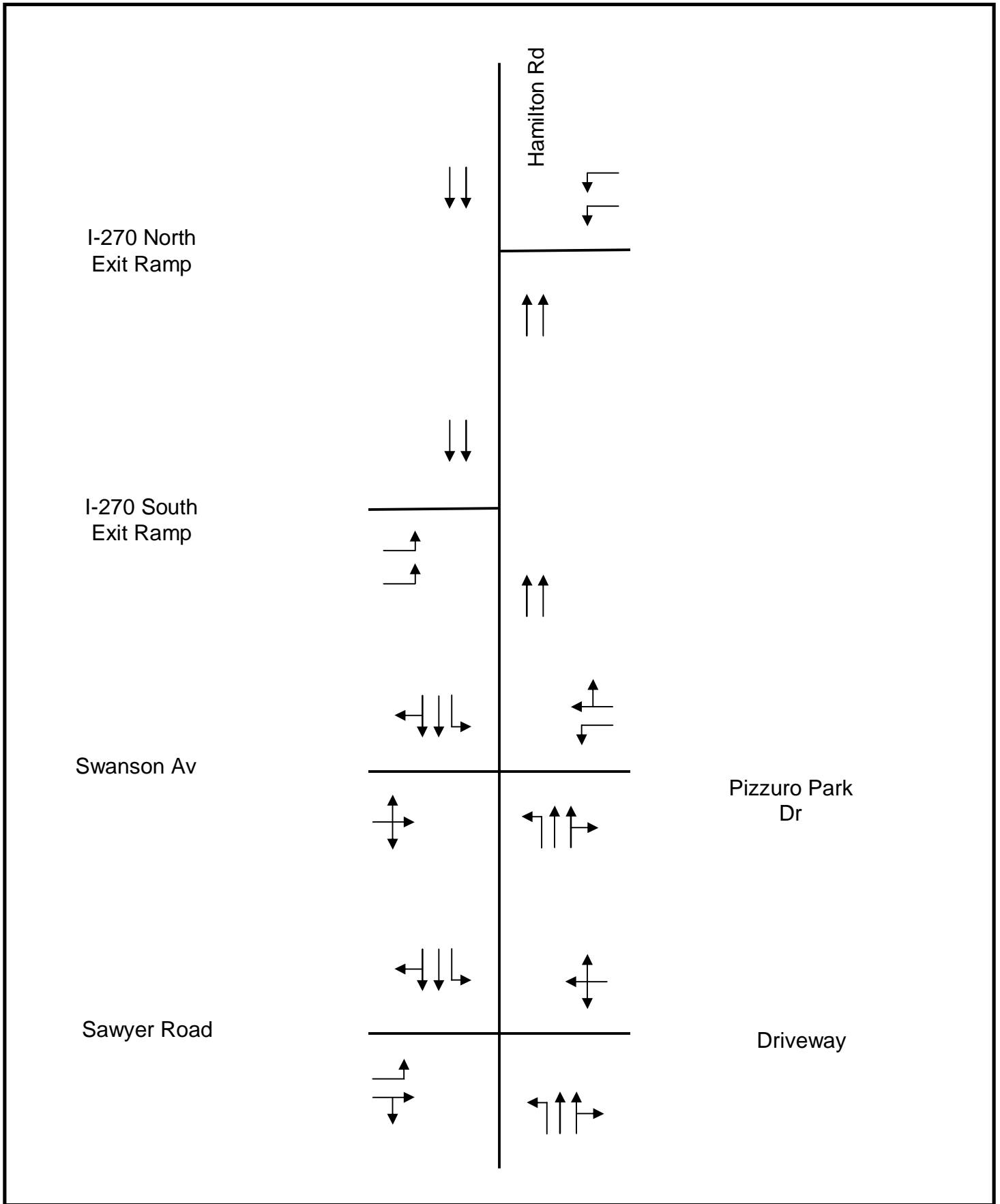


Figure A-3

Existing Lane Configurations – Hamilton Road

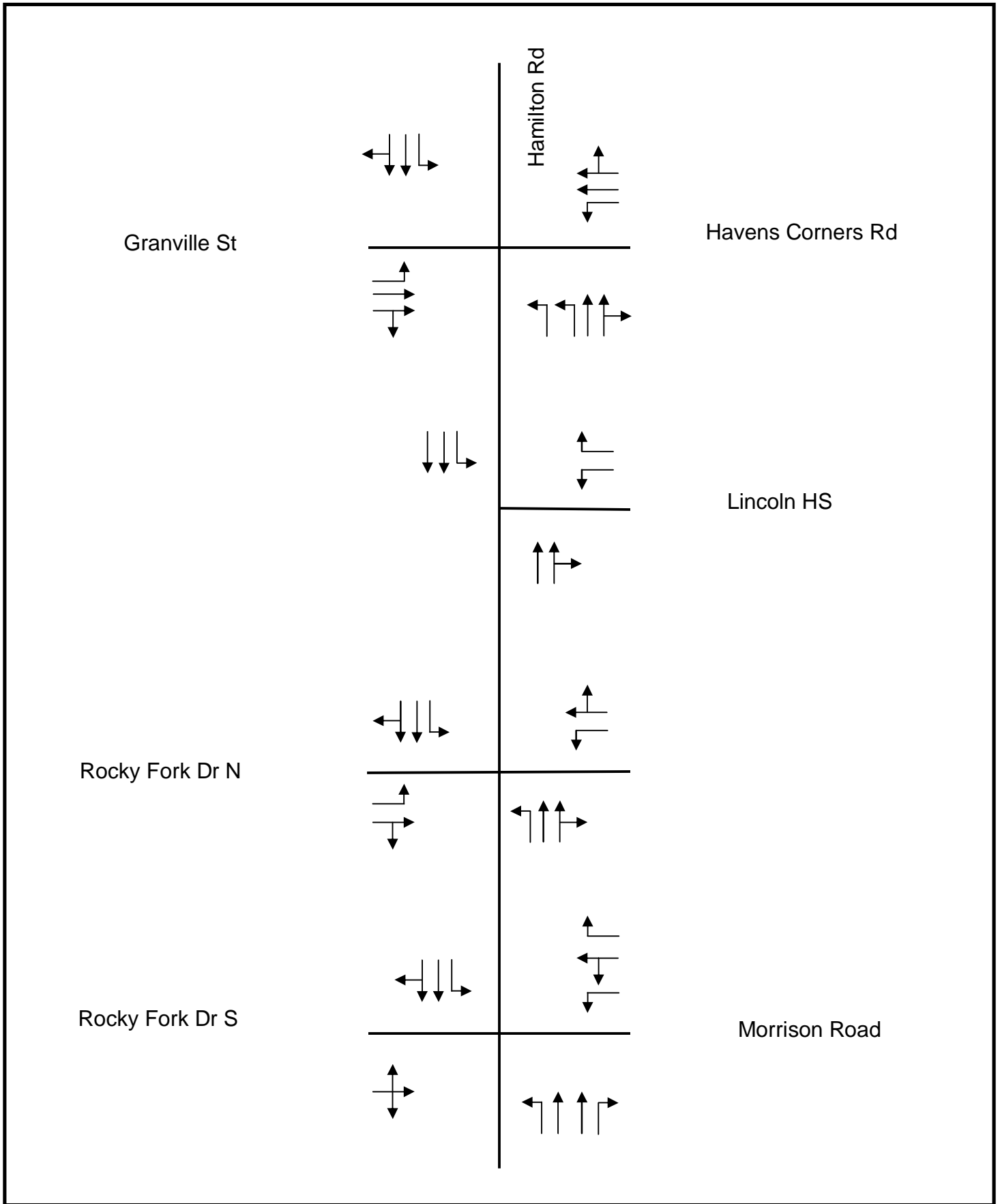


Figure A-4

Existing Lane Configurations – Hamilton Road

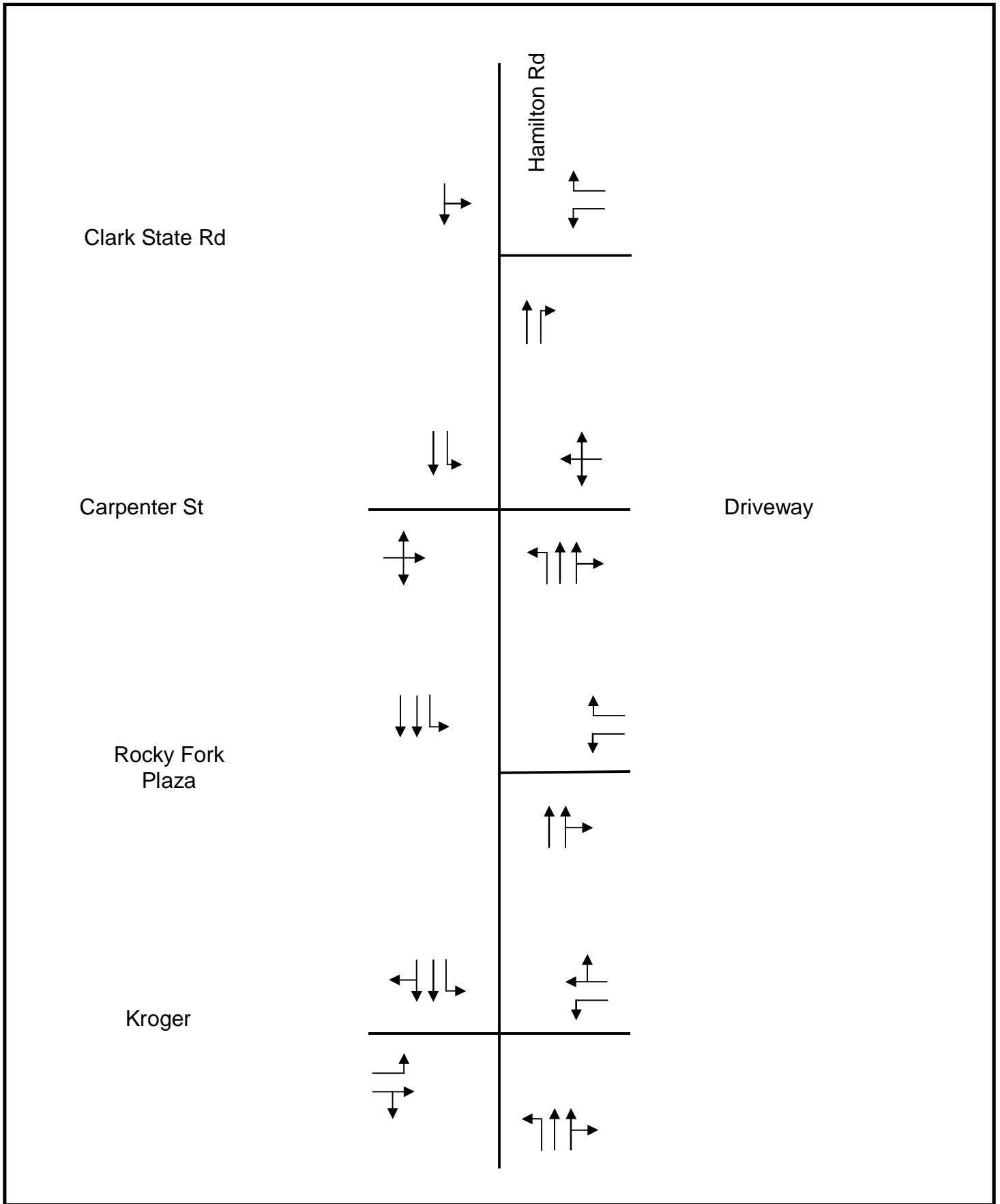


Figure A-5

Existing Lane Configurations – Hamilton Road

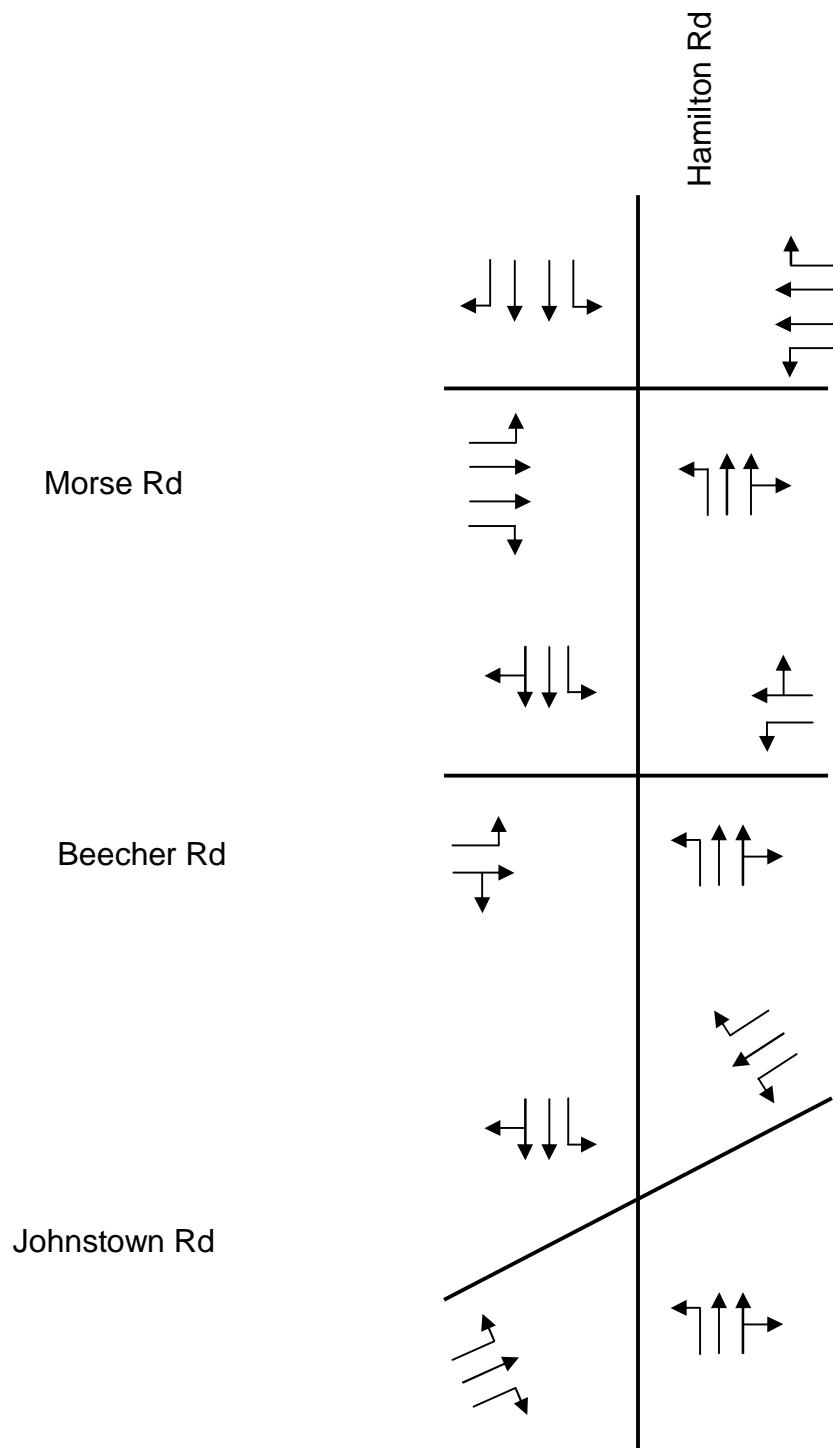


Figure A-6
Existing Lane Configurations – Hamilton Road

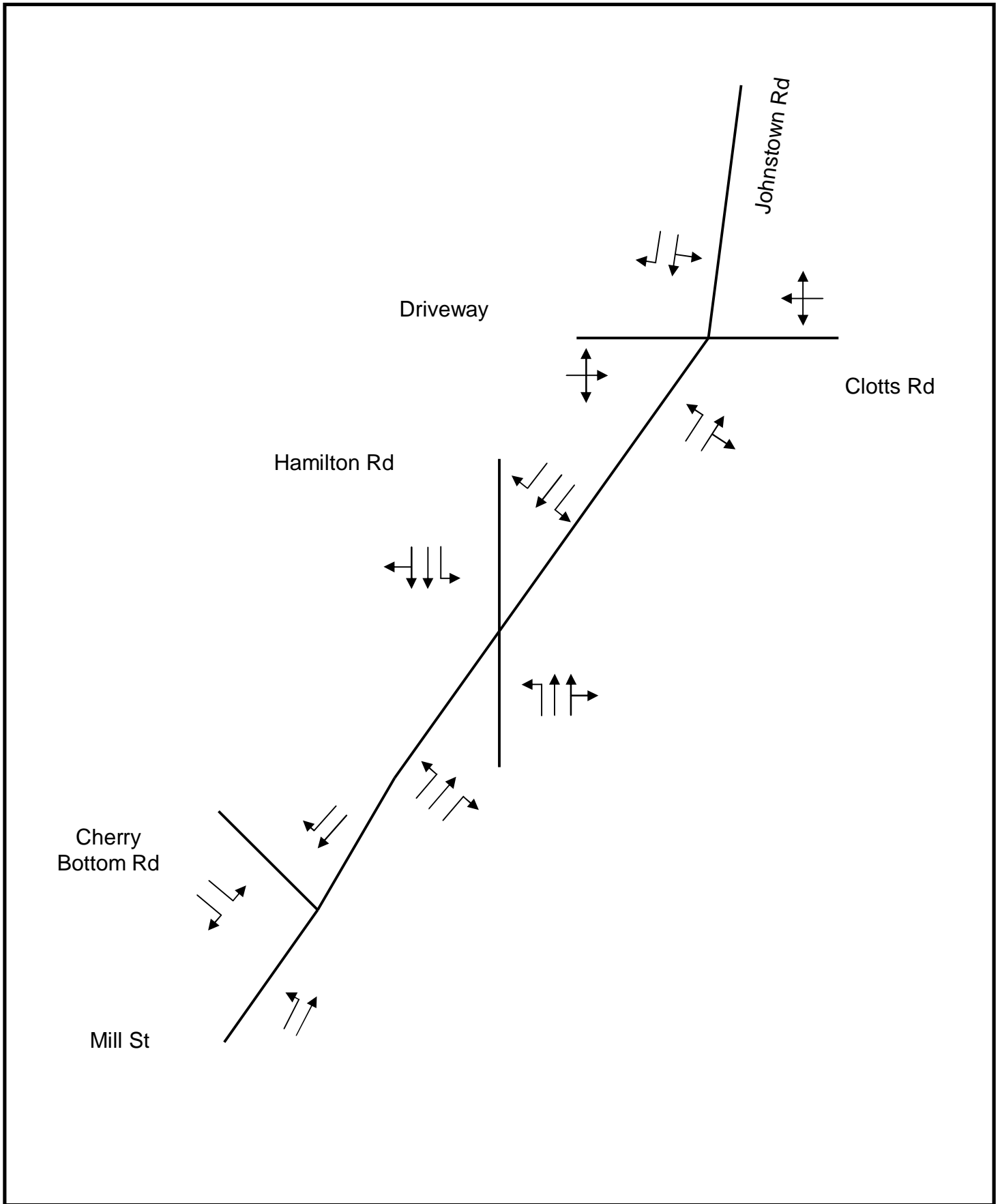


Figure A-7
Existing Lane Configurations – Johnstown Road

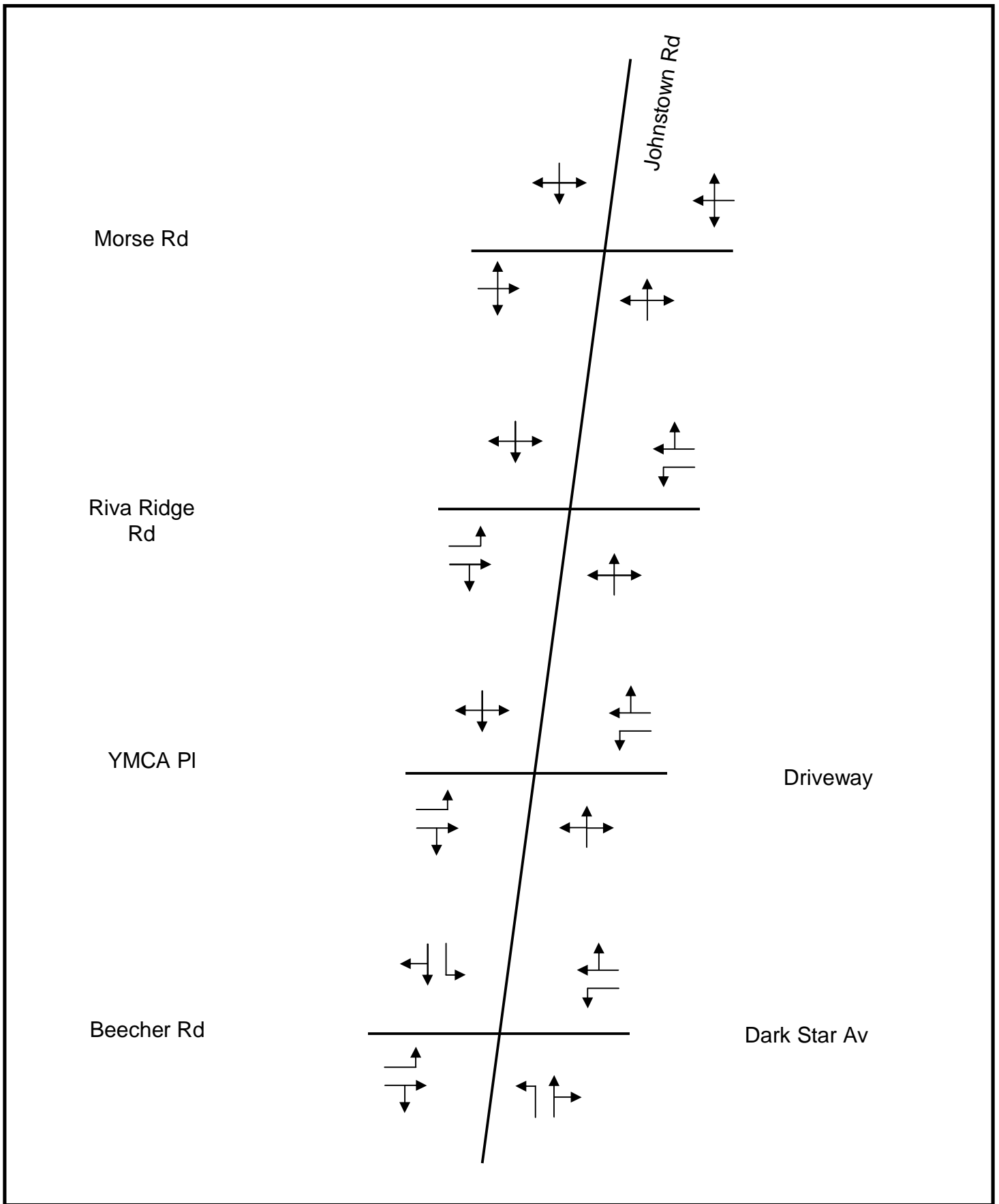


Figure A-8
Existing Lane Configurations – Johnstown Road

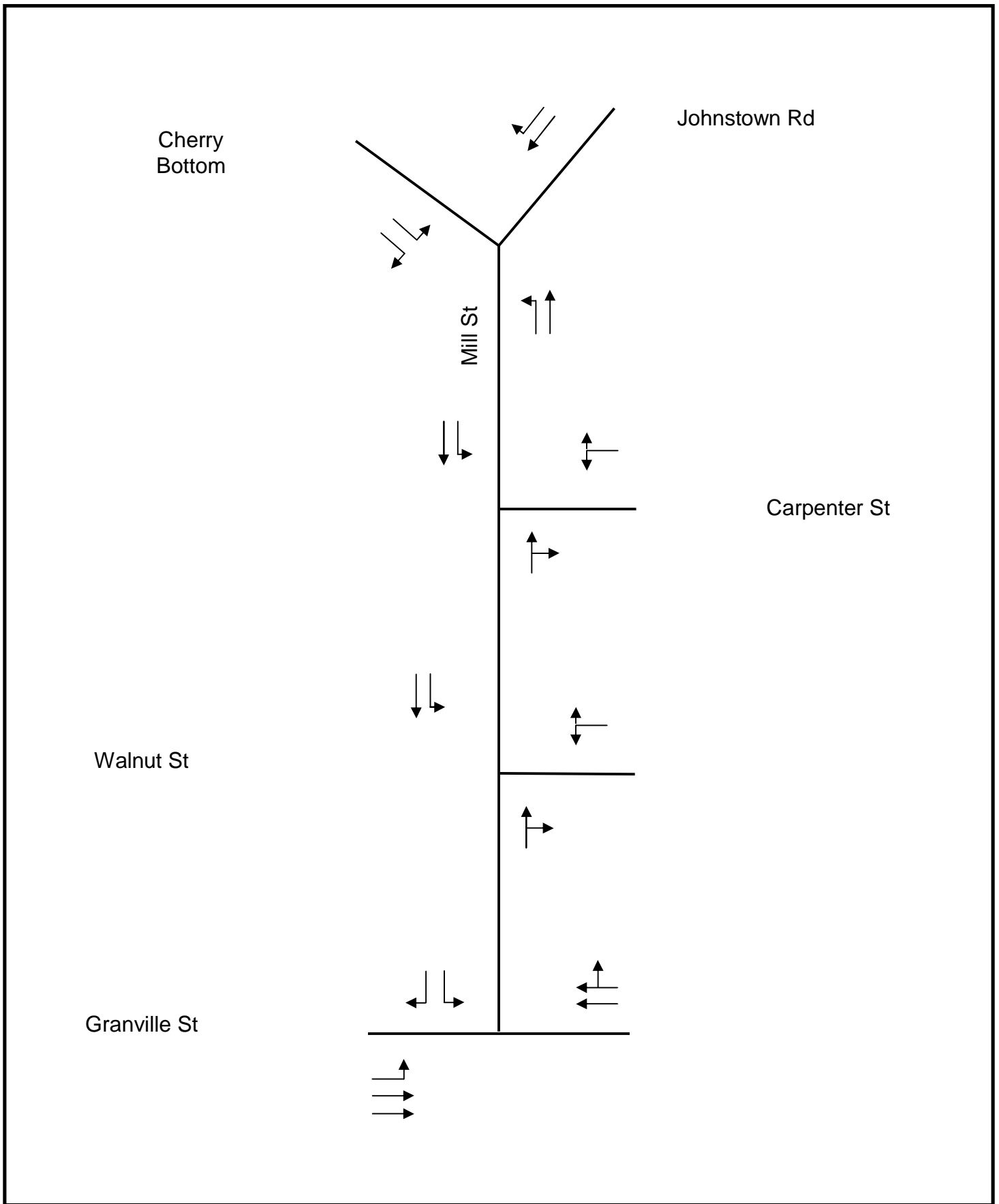


Figure A-9

Existing Lane Configurations – Mill Street

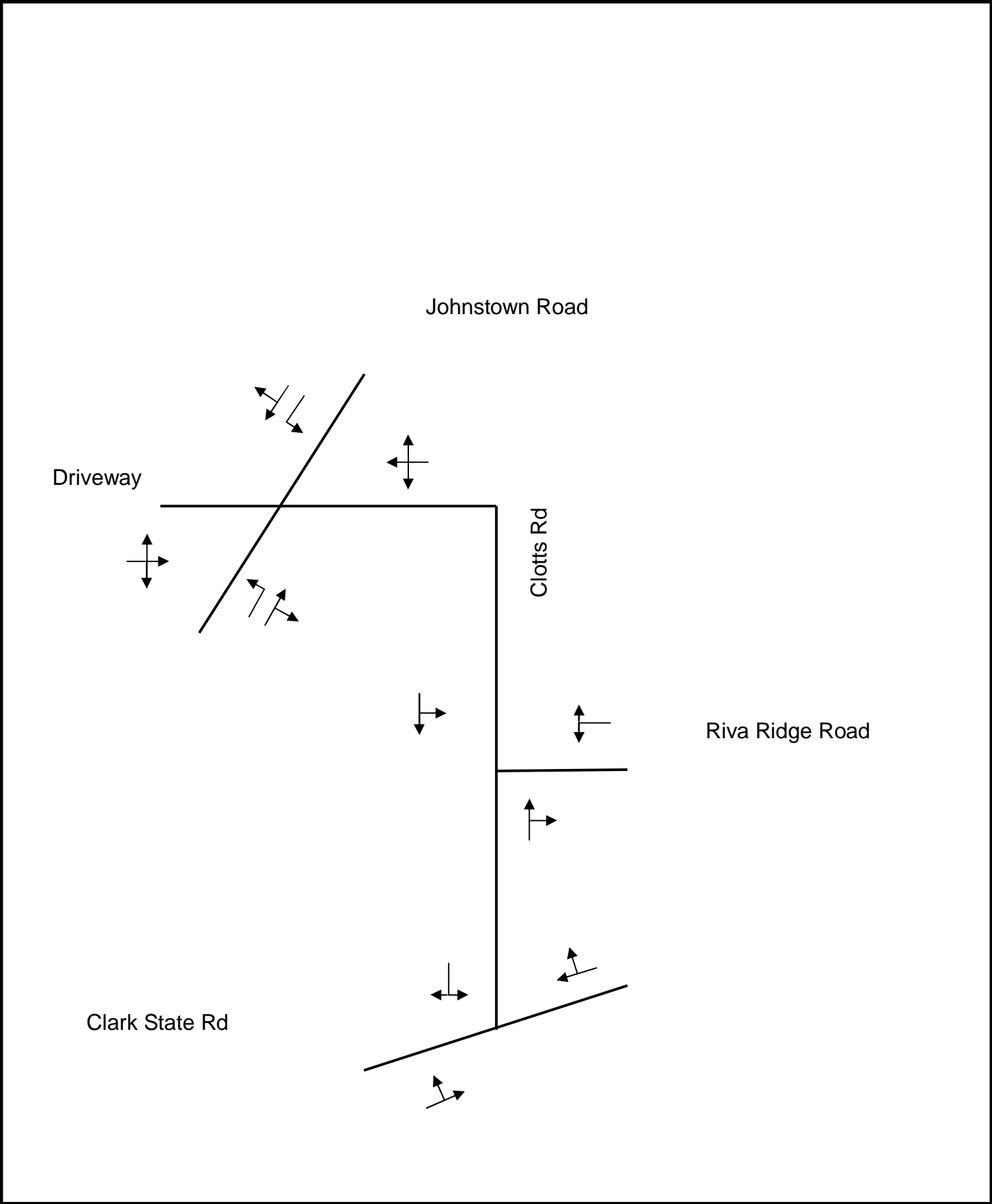


Figure A-10
Existing Lane Configurations – Clotts Road

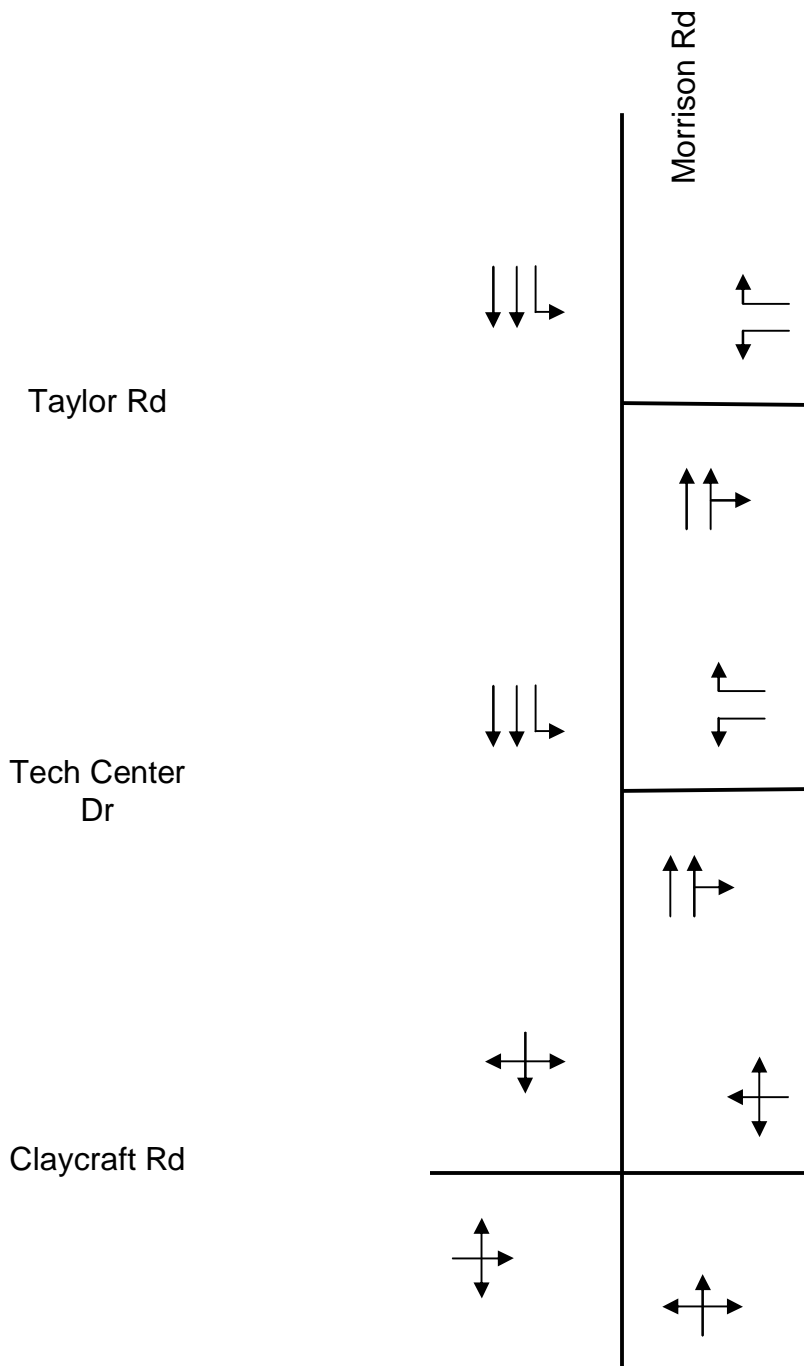
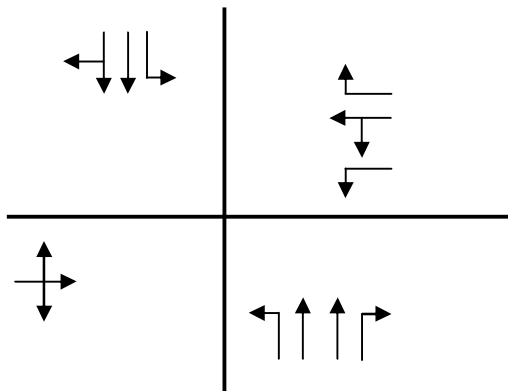


Figure A-11
Existing Lane Configurations – Morrison Road

Hamilton Rd



Morrison Rd

Waterbury St

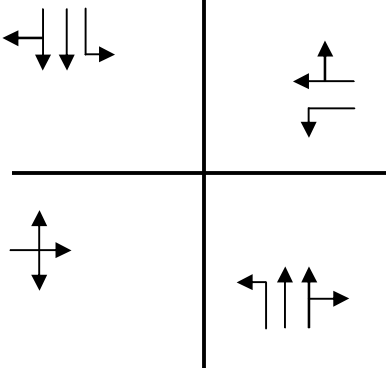


Figure A-12

Existing Lane Configurations – Morrison Road

Havens
Corners Rd

Taylor Rd

Claycraft Rd

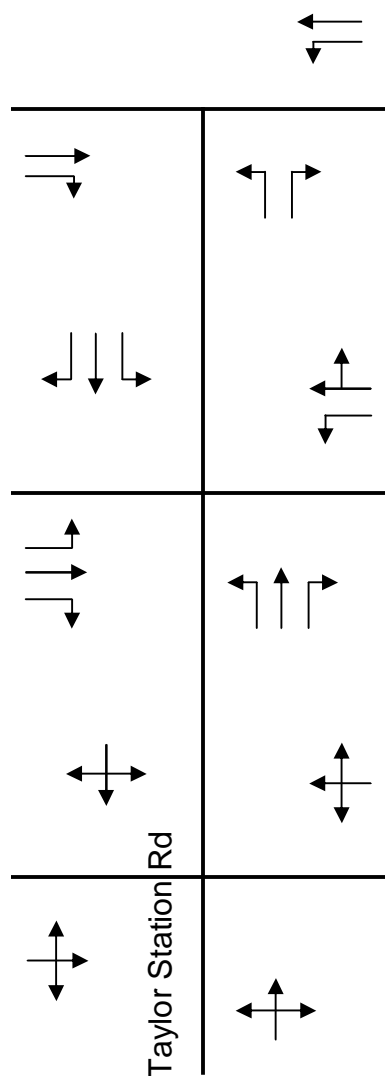


Figure A-13

Existing Lane Configurations – Taylor Station Road

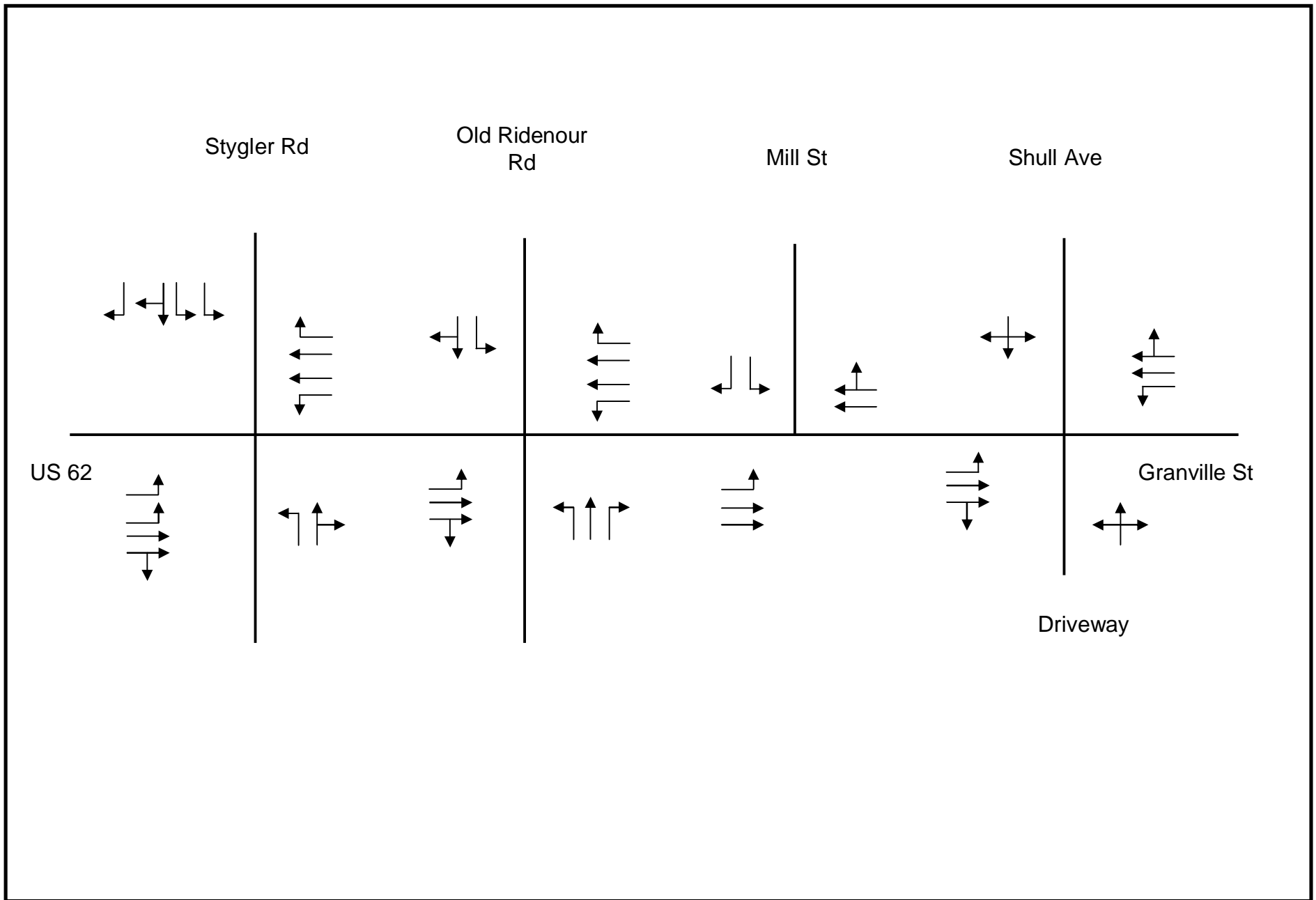


Figure A-14

Existing Lane Configurations – Granville Street/Havens Corners Road

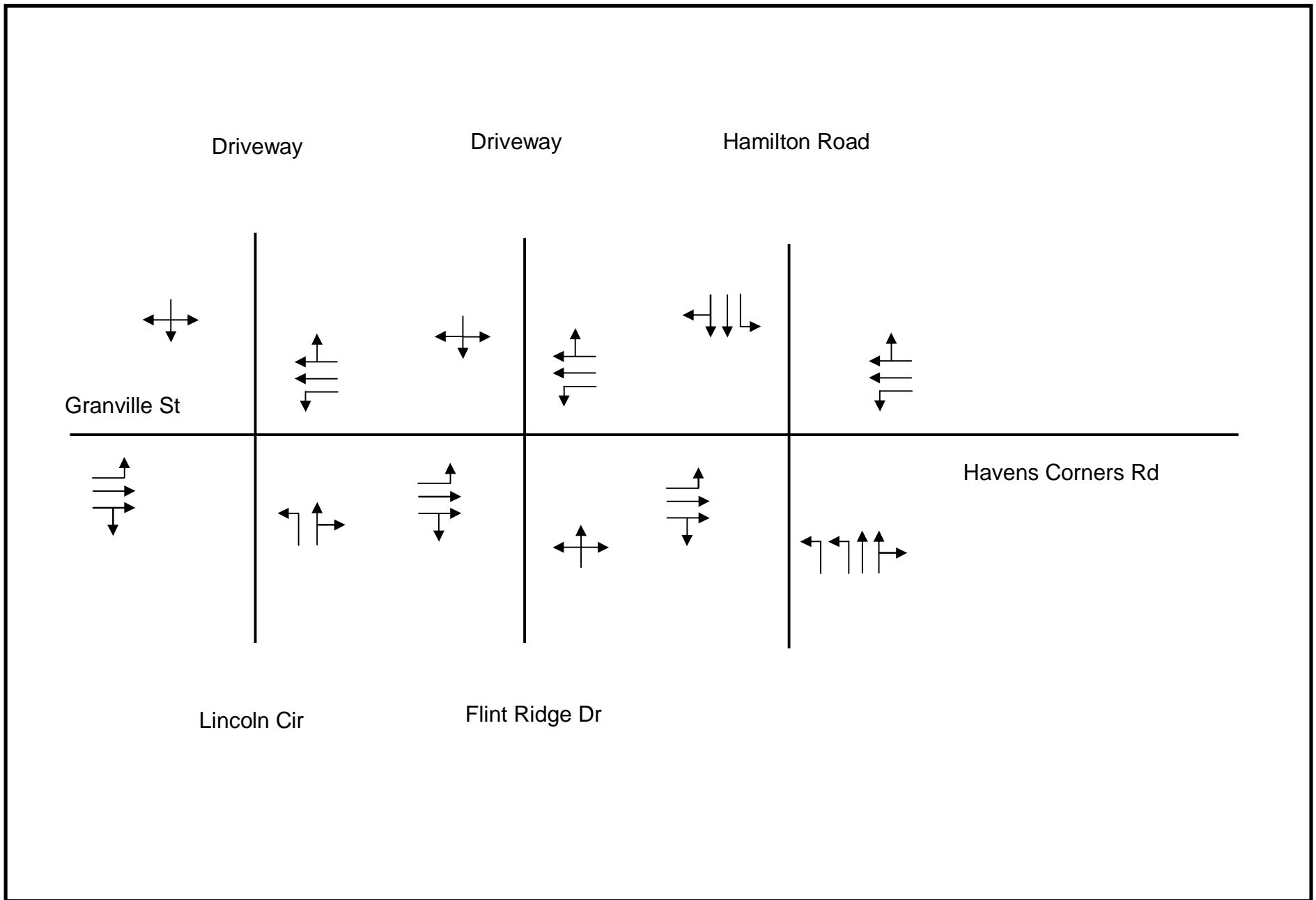


Figure A-15

Existing Lane Configurations – Granville Street/Havens Corners Road

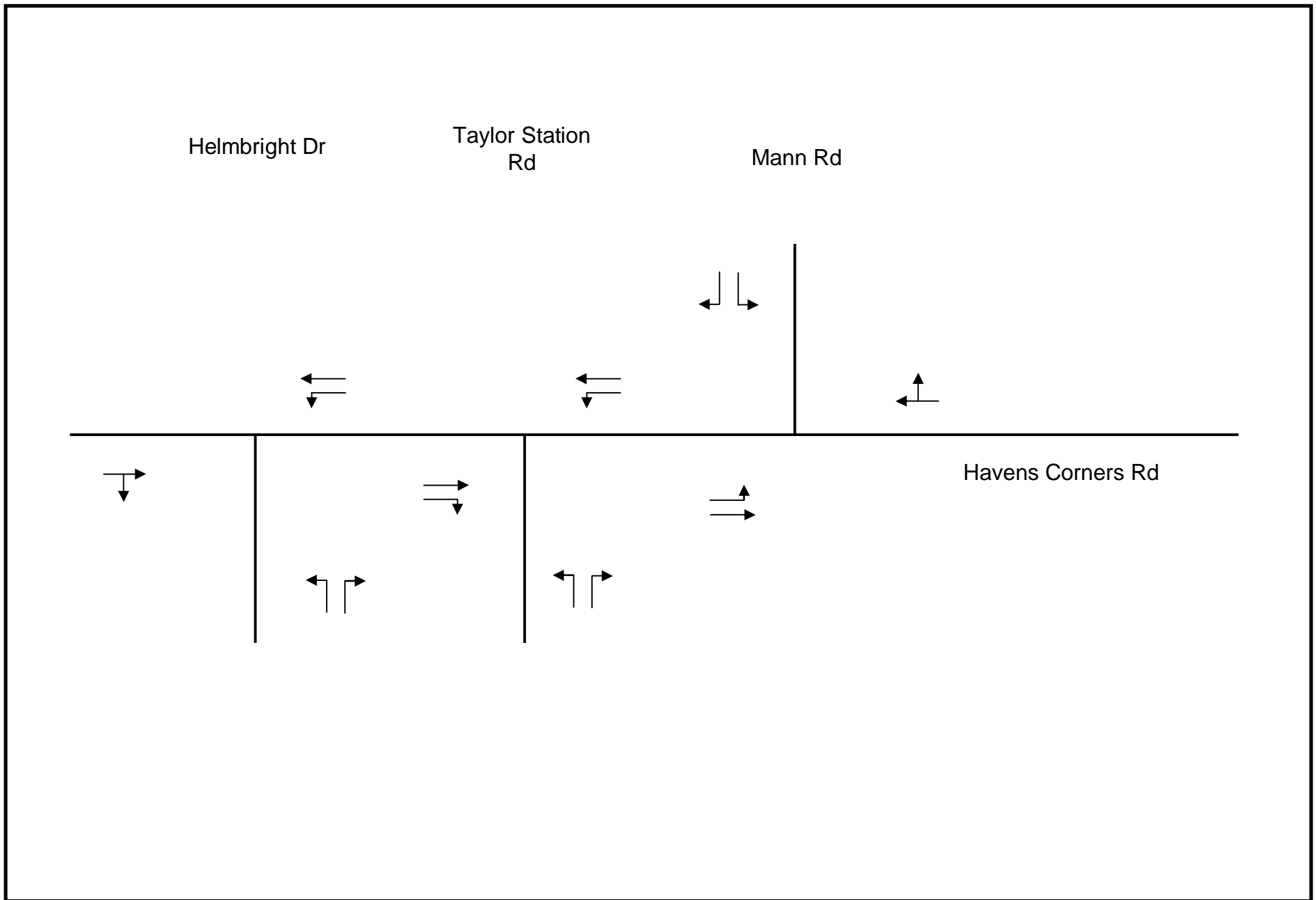


Figure A-16

Existing Lane Configurations – Granville Street/Havens Corners Road

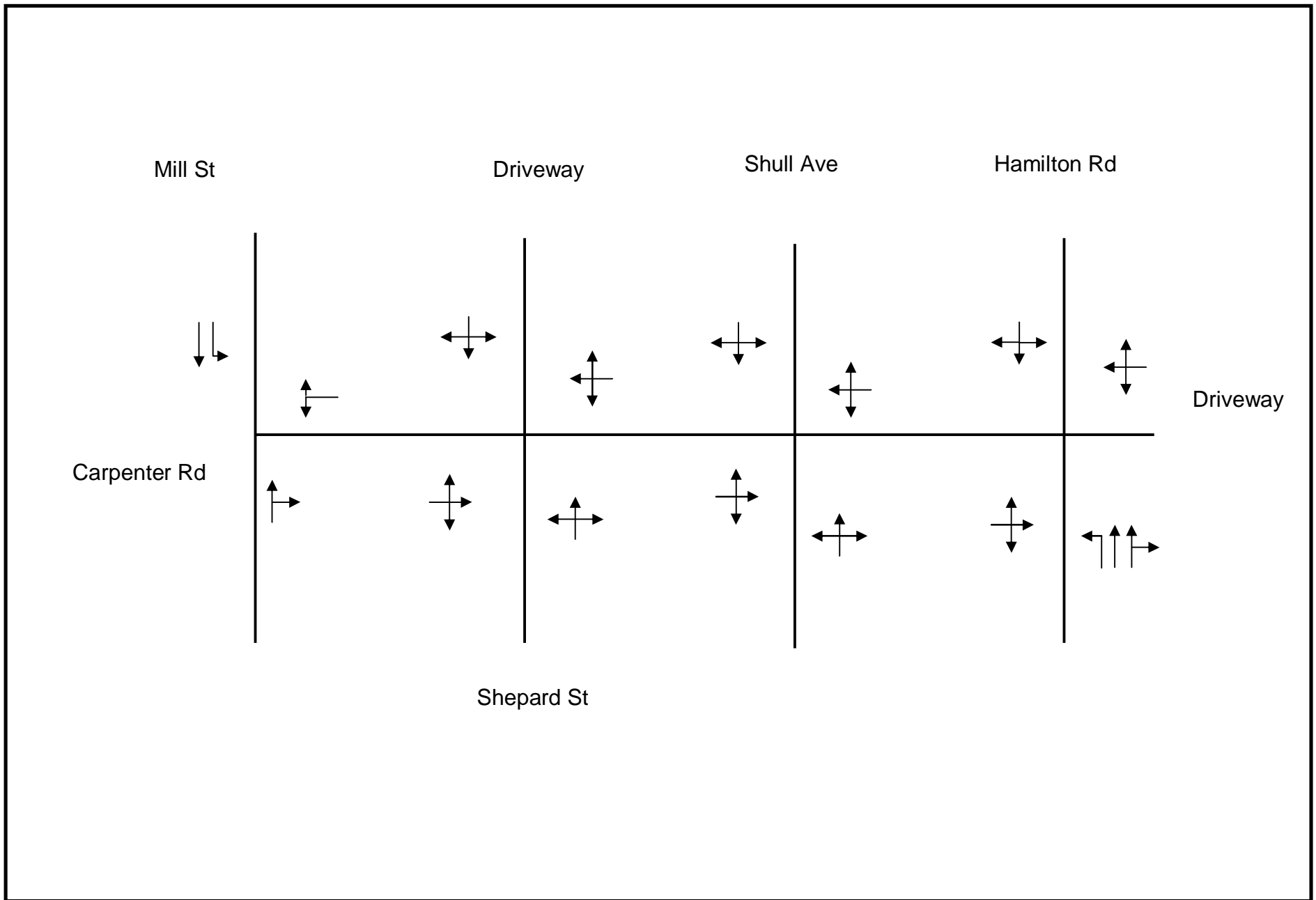


Figure A-17

Existing Lane Configurations – Carpenter Road

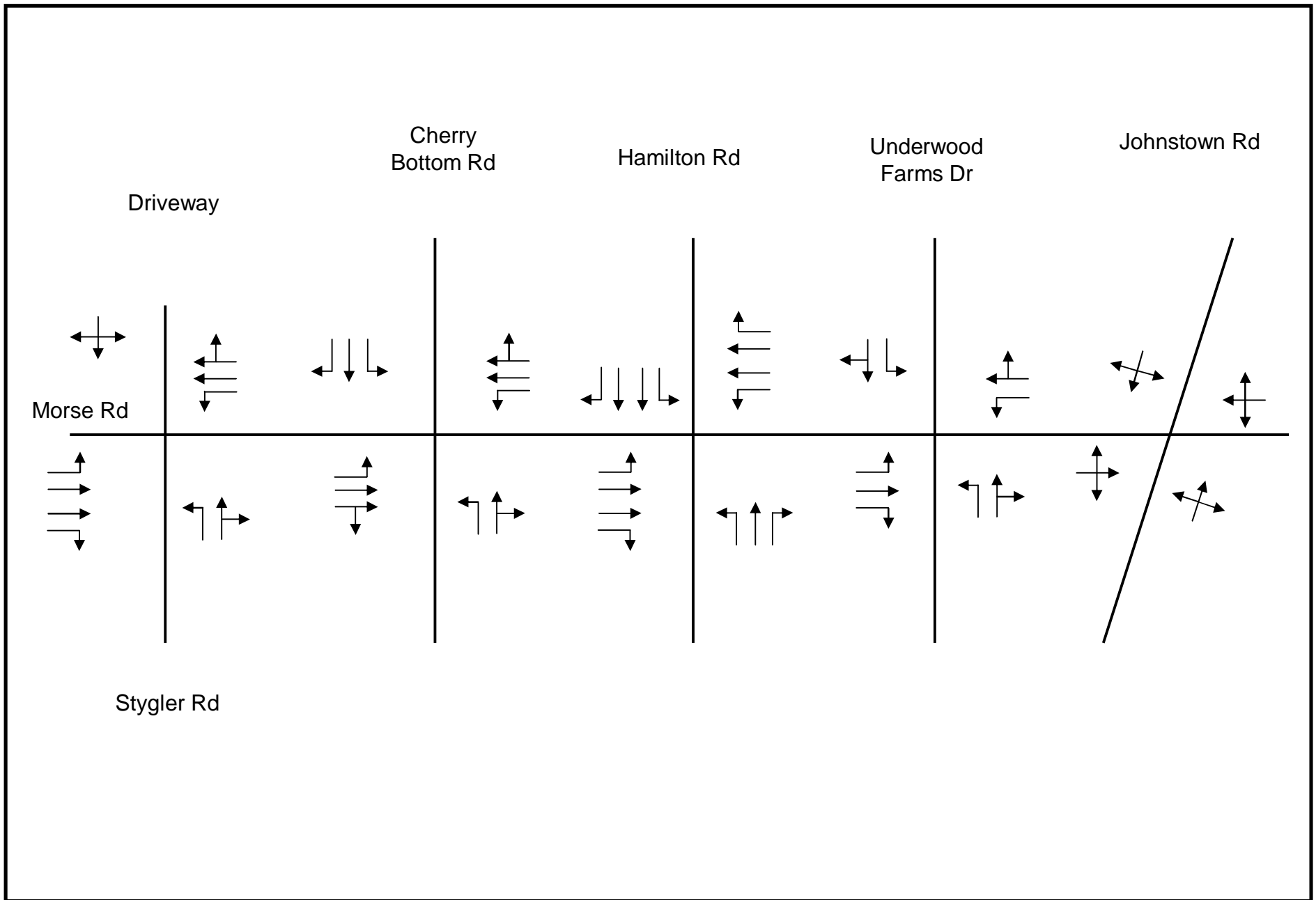


Figure A-18

Existing Lane Configurations – Morse Road

Appendix B

Design Year Roadway System Lane Configuration Summary

I-270 North
Exit Ramp

I-270 South
Exit Ramp

Hamilton Rd

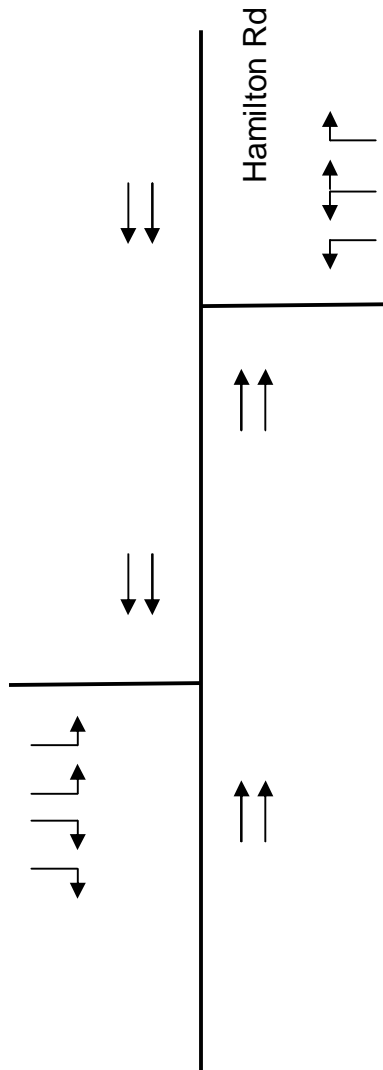


Figure B-1
Design Year Lane Configurations – Hamilton Road

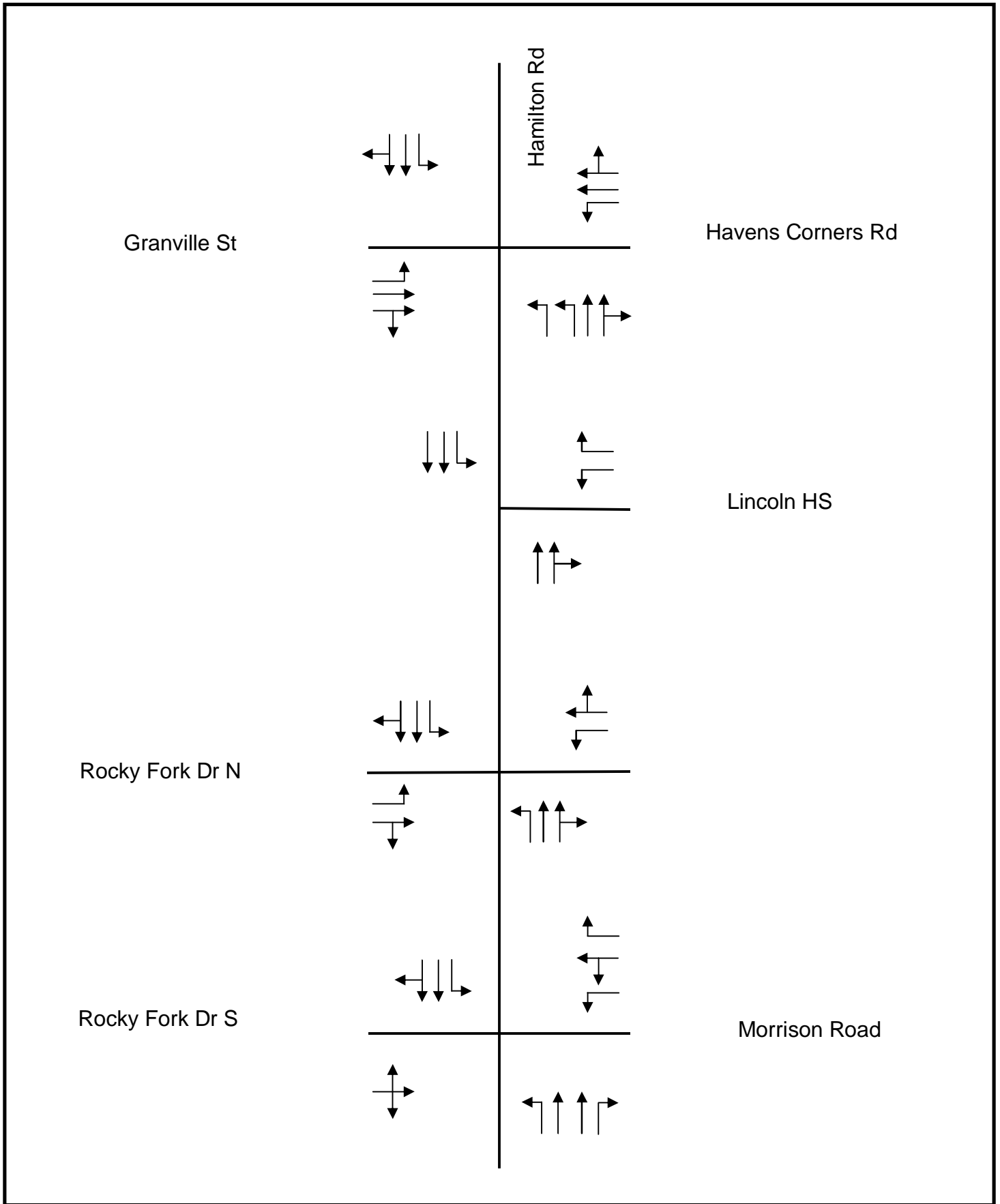


Figure B-2
Design Year Lane Configurations – Hamilton Road

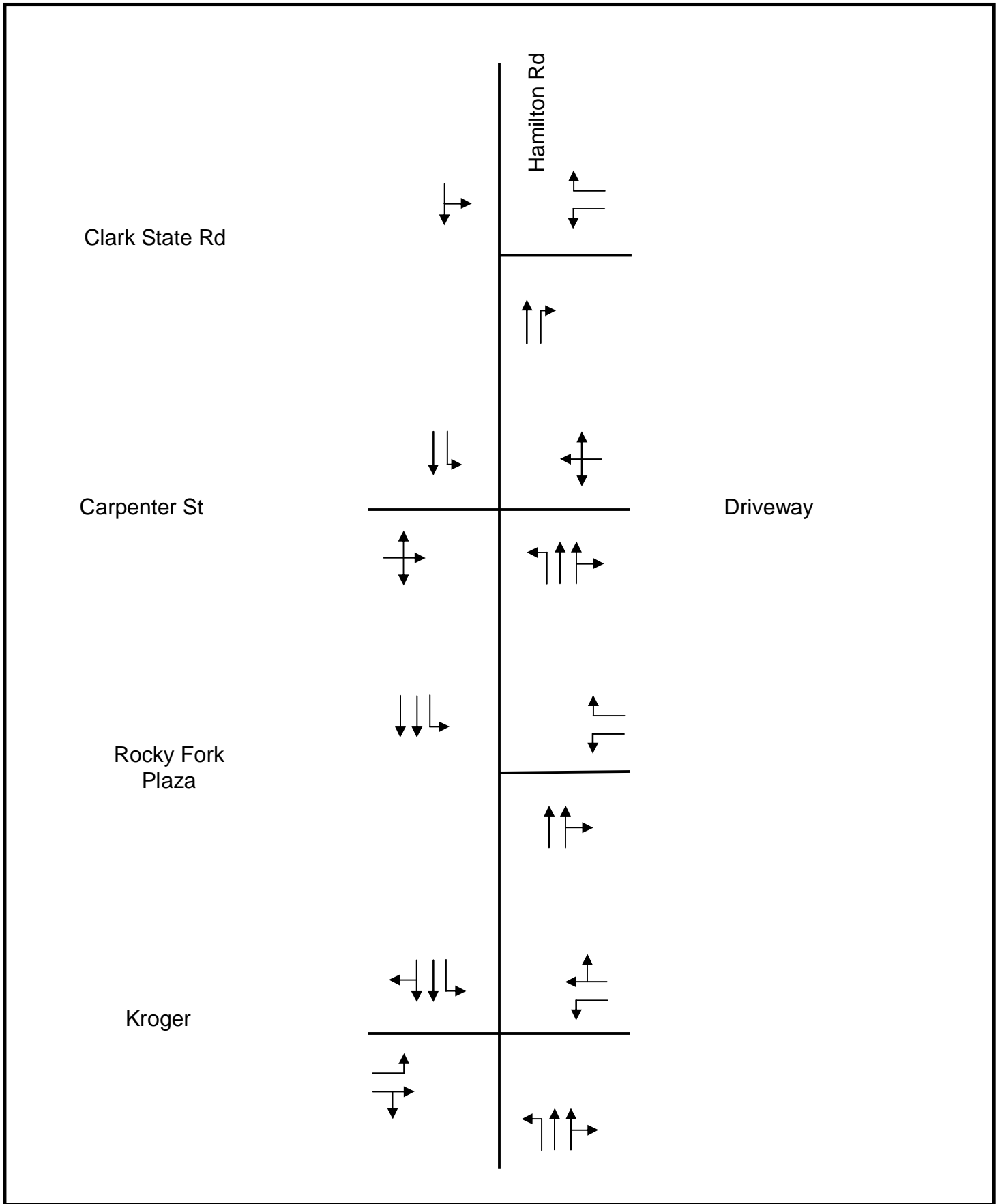


Figure B-3
Design Year Lane Configurations – Hamilton Road

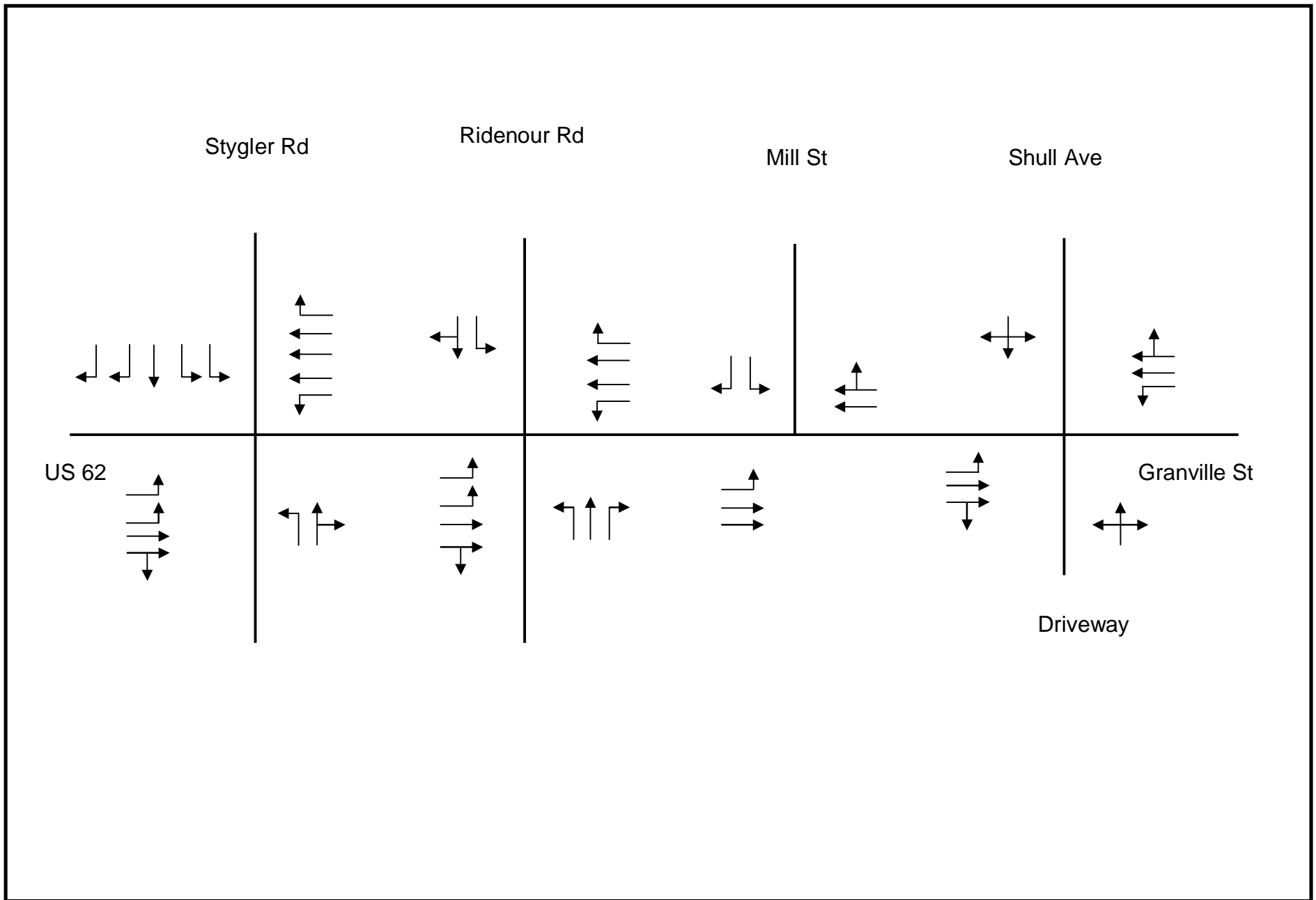


Figure B-4

Design Year Lane Configurations – US 62/Granville Street

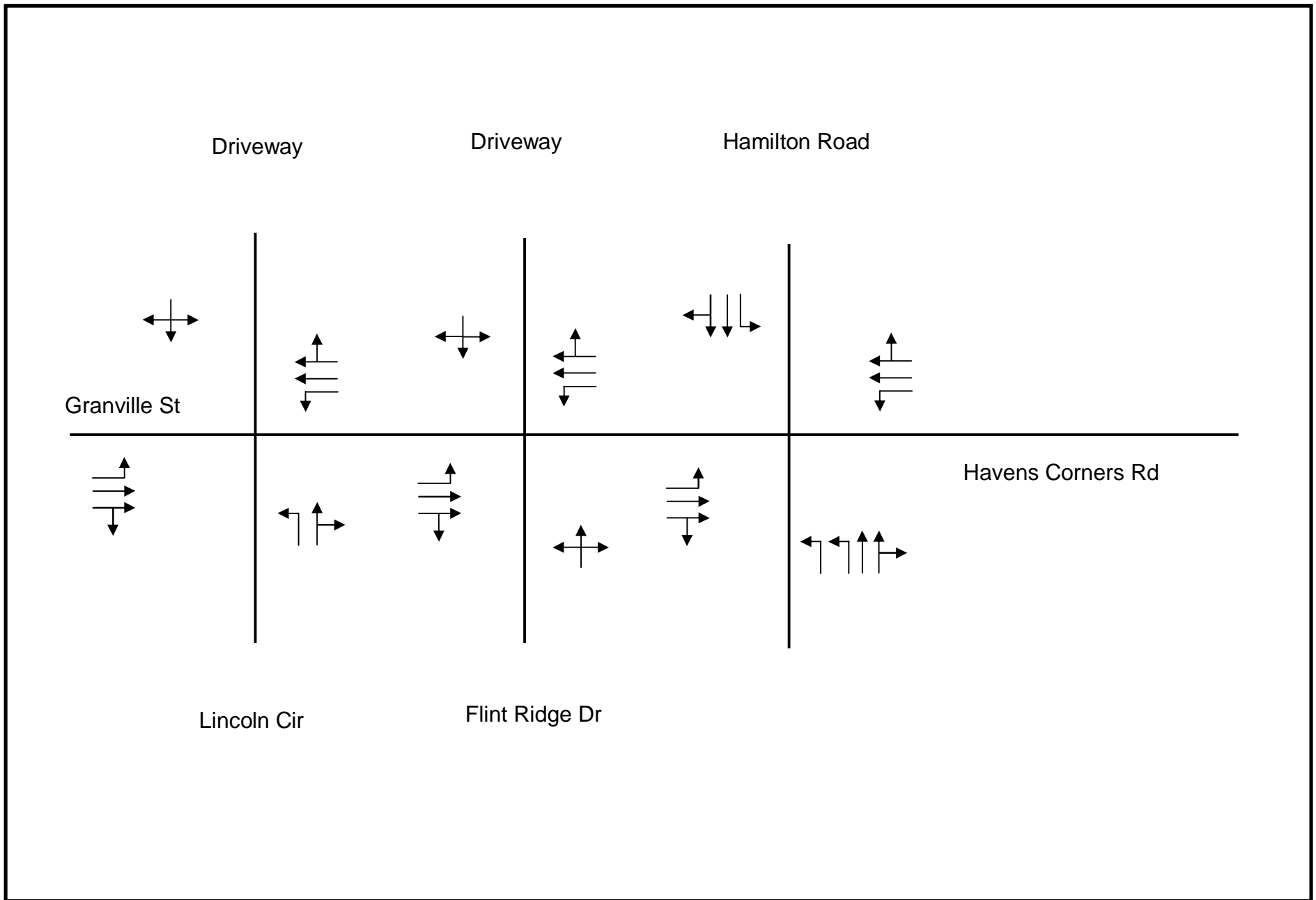


Figure B-5

Design Year Lane Configurations – Granville Street

Appendix C

Thoroughfare Plan Roadway System Summary Requirements

Existing (2006) Thoroughfare Plan Roadways

(Revised October 22, 2007)

| Segment | From | To | Classification | Jurisdiction | Thru Lanes | Speed Limit | 2006 ADT | ROW |
|---------------------|---------------------|--------------------|----------------|---------------------|------------|-------------|----------|-----------|
| Hines Road | McCutcheon Road | Wendler Blvd | Collector | Gahanna | 1/1 | 25 | 2,200 | 40'-50' |
| Lincolnshire Road | Agler Road | Wendler Blvd | Collector | Gahanna | 1/1 | 25 | | 50'-60' |
| Ridenour Road | Johnstown Road | Chappelfield Road | Collector | Gahanna | 1/1 | 25 | 5,100 | 60' |
| Stygler Road | Johnstown Road | Granville Street | Minor Arterial | Gahanna | 1/1T | 25 | 7,400 | 50'-80' |
| | Granville Street | Agler Road | Minor Arterial | Gahanna | 2/2T | 25 | 11,900 | 80' |
| | Agler Road | McCutcheon Road | Minor Arterial | Gahanna | 1/1T | 25/35 | 11,900 | 80' |
| | McCutcheon Road | Ridenour Road | Minor Arterial | Gahanna | 1/1T | 35 | 9,000 | 80' |
| | Ridenour Road | Morse Road | Minor Arterial | Gahanna/Columbus | 1/1T | 35 | 7,600 | 80' |
| Mill Street | Granville Street | Carpenter Road | Minor Arterial | Gahanna | 1/1T | 25 | 15,900 | 60' |
| | Carpenter Road | Johnstown Road | Minor Arterial | Gahanna | 1/1 | 35 | 15,900 | 60' |
| Cherry Bottom Road | Mill Street | Academy Woods Dr | Collector | Gahanna | 1/1 | 25 | 4,500 | 80' |
| | Academy Woods Dr | Morse Road | Collector | Gahanna | 1/1 | 25 | 4,800 | 80' |
| E. Johnstown Road | Mill Street | Hamilton Road | Minor Arterial | Gahanna | 1/1 | 35 | 12,400 | 60' |
| | Hamilton Road | Beecher Road | Minor Arterial | Gahanna | 1/1T | 35 | 13,300 | 75'-80' |
| | Beecher Road | Riva Ridge Road | Minor Arterial | Gahanna | 1/1 | 35 | 11,200 | 75'-80' |
| | Riva Ridge Road | Morse Road | Minor Arterial | Gahanna/Franklin Co | 1/1 | 50 | 11,400 | 80' |
| Hamilton Road | Sawyer Road | Morrison Road | Major Arterial | Columbus/Gahanna | 2/2D | 45 (35) * | 33,900 | 100' |
| | Morrison Road | Rocky Fork Drive N | Major Arterial | Gahanna | 2/2T | 35 | 30,500 | 100' |
| | Rocky Fork Drive N | Granville Street | Major Arterial | Gahanna | 2/2T | 35 | 34,500 | 100' |
| | Granville Street | Clark State Road | Major Arterial | Gahanna | 2/2T | 35 | 27,400 | 100' |
| | Clark State Road | Johnstown Road | Major Arterial | Gahanna | 1/1T | 35 | 18,100 | 100' |
| | Johnstown Road | Beecher Road | Major Arterial | Gahanna | 2/2D | 35 | 20,200 | 100' |
| | Beecher Road | Morse Road | Major Arterial | Gahanna | 2/2D | 35 | 24,000 | 100'-110' |
| Clark State Road | Hamilton Road | Clotts Road | Collector | Gahanna/Franklin Co | 1/1 | 35 | 4,400 | 80' |
| | Clotts Road | Darling Road | Collector | Gahanna/Franklin Co | 1/1 | 35/25/45 | 3,900 | 80' |
| Clotts Road | Clark State Road | Johnstown Road | Collector | Gahanna | 1/1 | 25 | 3,300 | 40' |
| Helmbright Road | Taylor Road | Havens Corner Road | Collector | Gahanna | 1/1 | 25 | 3,400 | 60' |
| Shull Road | Headley Road | Johnstown Road | Collector | Gahanna | 1/1 | 25 | | 50' |
| Mann Road | Havens Corners Road | Clark State Road | Collector | Franklin County | 1/1 | 45 | 1,400 | 55'-60' |
| Morrison Road | Claycraft Road | Tech Center Drive | Collector | Gahanna | 1/1 | 35 | 6,600 | 80' |
| | Tech Center Drive | Taylor Road | Collector | Gahanna | 2/2T | 35 | 9,800 | 80' |
| | Taylor Road | Hamilton Road | Minor Arterial | Gahanna | 2/2T | 25 | 18,500 | 80' |
| Taylor Station Road | Claycraft Road | Taylor Road | Minor Arterial | Gahanna/Franklin Co | 1/1 | 35 | 6,700 | 50'-80' |
| | Taylor Road | Havens Corner Road | Minor Arterial | Franklin County | 1/1 | 45 | 4,100 | 50'-80' |

* Speed limit revision to 35 MPH recommended per Speed Limit Journalization Report, Revised October 22, 2007

Existing (2006) Thoroughfare Plan Roadways (cont.)

East-West Corridors

| Segment | From | To | Classification | Jurisdiction | Thru Lanes | Speed Limit | 2006 ADT | ROW |
|------------------------|---------------------|----------------------|----------------|----------------------|------------|-------------|----------|-----------|
| Claycraft Road | Morrison Road | Taylor Station Road | Collector | Gahanna | 1/1 | 35 | 2,700 | 60' |
| Taylor Road | Morrison Road | Taylor Station Road | Minor Arterial | Gahanna/Franklin Co | 1/1T | 35 | 8,100 | 50'-80' |
| | Taylor Station Road | Eastgate Pkwy | Minor Arterial | Gahanna/Franklin Co. | 1/1 | 35 | 5,600 | 50'-80' |
| W. Johnstown Road | Stygler Road | Ridenour Road | Collector | Gahanna | 1/1 | 35 | 6,700 | 60' |
| Granville Street/US 62 | Stygler Road | Ridenour Road | Major Arterial | Gahanna | 2/2D | 25 (40) # | 31,400 | 90'-110' |
| | Ridenour Road | Mill Street | Major Arterial | Gahanna | 2/2T | 25 (40) # | 31,400 | 90'-110' |
| | Mill Street | Hamilton Road | Major Arterial | Gahanna | 2/2T | 25 | 29,000 | 90'-110' |
| Havens Corners Road | Hamilton Road | Helmbright Road | Major Arterial | Gahanna | 1/1 | 35 | 16,900 | 60'-80' |
| | Helmbright Road | Taylor Station Road | Major Arterial | Gahanna/Franklin Co. | 1/1 | 35 | 10,600 | 60'-80' |
| | Taylor Station Road | Reynoldsburg-NA Road | Major Arterial | Franklin Co. | 1/1 | 45 | 12,000 | 60'-80' |
| Havens Road | Clark State Road | Mann Road | Collector | Franklin Co. | 1/1 | 45 | 1,400 | 60' |
| Agler Road | Stelzer Road | Stygler Road | Minor Arterial | Columbus/Gahanna | 1/1T | 35/25 | 9,600 | 50'-80' |
| Carpenter Road | Mill Street | Hamilton Road | Collector | Gahanna | 1/1 | 25 | | 50' |
| Chappelfield Road | Stygler Road | Ridenour Road | Collector | Gahanna | 1/1 | 25 | | 50' |
| McCutcheon Road | Stelzer Road | Stygler Road | Minor Arterial | Columbus/Gahanna | 1/1T | 35 | 6,400 | 60' |
| Headley Road | Mill Street | Carpenter Road | Collector | Gahanna/Franklin Co. | 1/1 | 25 | | 60' |
| Beecher Road | Hamilton Road | Johnstown Road | Collector | Gahanna | 1/1T | 25 | 5,800 | 60' |
| Morse Road | I-270 | Stygler Road | Major Arterial | Columbus | 2/2T | 45 | 32,000 | 120' |
| | Stygler Road | Cherry Bottom Road | Major Arterial | Columbus | 2/2T | 45 | 30,100 | 120' |
| | Cherry Bottom Road | Hamilton Road | Major Arterial | Columbus | 2/2T | 45 | 19,500 | 110'-120' |
| | Hamilton Road | Underwood Farms Dr | Major Arterial | Columbus | 1/1 | 45 | 19,200 | 80'-110' |
| | Underwood Farms Dr | Johnstown Road | Major Arterial | Columbus | 1/1 | 45 | 17,400 | 60'-80' |
| | Johnstown Road | Harlem Road | Major Arterial | New Albany | 1/1 | 45 | 15,000 | 60'-80' |

Speed limit revision to 40 MPH recommended per Speed Limit Journalization Report, Revised October 22, 2007

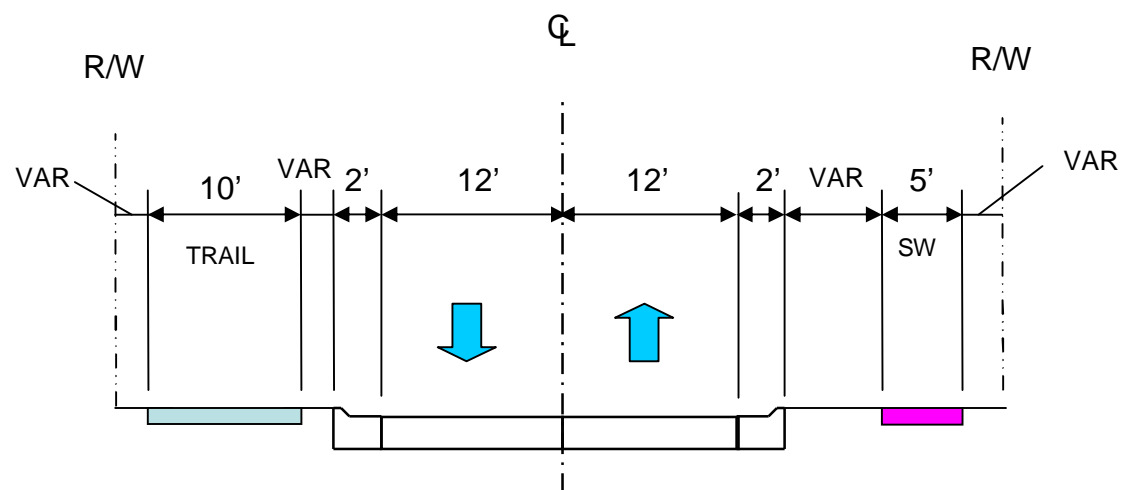
City of Gahanna
2030 Design Year Thoroughfare Plan Roadways

| <i>Segment</i> | <i>From</i> | <i>To</i> | <i>Jurisdiction</i> | <i>Existing (2006) ADT</i> | <i>Existing Lanes</i> | <i>Existing ROW</i> | <i>Functional Classification</i> | <i>Estimated 2030 ADT</i> | <i>2030 Number of Lanes</i> | <i>2030 Prop. ROW</i> |
|------------------------|---------------------|---------------------|---------------------|--------------------------------|-----------------------|---------------------|----------------------------------|-------------------------------|---------------------------------|---------------------------|
| Agler Road | Stelzer Road | Stygler Road | Columbus/Gahanna | 9,600 | 1/1T | 50'-80' | Minor Arterial | 12,500 | 1/1T | 80' |
| Beecher Road | Hamilton Road | Johnstown Road | Gahanna | 5,800 | 1/1T | 50'-60' | Collector | 6,500 | 1/1T | 80' |
| Carpenter Road | Mill Street | Hamilton Road | Gahanna | 1,500 | 1/1 | 50' | Collector | 2,000 | 1/1 | 60' - 80' |
| Cherry Bottom Road | Mill Street | Academy Woods Dr | Gahanna | 4,500 | 1/1 | 80' | Collector | 5,500 | 1/1 | 80' |
| | Academy Woods Dr | Morse Road | Gahanna | 4,800 | 1/1 | 80' | Collector | 7,600 | 1/1 | 80' |
| Clark State Road | Hamilton Road | Clotts Road | Gahanna/Franklin Co | 4,400 | 1/1 | 80' | Collector | 16,800 | 1/1T | 80' |
| | Clotts Road | Darling Road | Gahanna/Franklin Co | 3,900 | 1/1 | 80' | Collector | 12,300 | 1/1 | 80' |
| Claycraft Road | Morrison Road | Taylor Station Road | Gahanna | 2,700 | 1/1 | 60' | Collector | 3,100 | 1/1T | 60' |
| Clotts Road | Clark State Road | Johnstown Road | Gahanna | 3,300 | 1/1 | 40' | Collector | 4,000 | 1/1 | 60' |
| E. Johnstown Road | Mill Street | Hamilton Road | Gahanna | 12,400 | 1/1 | 60' | Minor Arterial | 13,700 | 1/1T | 80' |
| | Hamilton Road | Beecher Road | Gahanna | 13,300 | 1/1T | 75'-80' | Minor Arterial | 25,200 | 1/1T | 80' |
| | Beecher Road | Riva Ridge Road | Gahanna | 11,200 | 1/1 | 75'-80' | Minor Arterial | 25,700 | 1/1T | 80' |
| | Riva Ridge Road | Morse Road | Gahanna/Franklin Co | 11,400 | 1/1 | 80' | Minor Arterial | 25,700 | 1/1T | 80' |
| Granville Street/US 62 | Stygler Road | Ridenour Road | Gahanna | 31,400 | 2/2D | 90'-110' | Major Arterial | 47,600 | 3/3D | 130' |
| | Ridenour Road | Mill Street | Gahanna | 31,400 | 2/2T | 90'-110' | Major Arterial | 33,900 | 2/2D | 120' |
| | Mill Street | Hamilton Road | Gahanna | 29,000 | 2/2T | 90'-110' | Major Arterial | 33,900 | 2/2D | 120' |
| Hamilton Road | I-270 | Morrison Road | Gahanna | 33,900 | 2/2D | 100' | Major Arterial | 57,700 | 2/2D | 120' |
| | Morrison Road | Rocky Fork Drive N | Gahanna | 30,500 | 2/2T | 100' | Major Arterial | 42,500 | 2/2D | 120' |
| | Rocky Fork Drive N | Granville Street | Gahanna | 34,500 | 2/2T | 100' | Major Arterial | 42,500 | 2/2D | 120' |
| | Granville Street | Clark State Road | Gahanna | 27,400 | 2/2T | 100' | Major Arterial | 49,300 | 2/2D | 120' |
| | Clark State Road | Johnstown Road | Gahanna | 18,100 | 1/1 | 100' | Major Arterial | 39,900 | 2/2D | 120' |
| | Johnstown Road | Beecher Road | Gahanna | 20,200 | 2/2D | 100' | Major Arterial | 34,700 | 2/2D | 120' |
| | Beecher Road | Morse Road | Gahanna | 24,000 | 2/2D | 100'-110' | Major Arterial | 43,100 | 2/2D | 120' |
| Havens Corners Road | Hamilton Road | Helmbright Road | Gahanna | 16,900 | 1/1 | 60'-80' | Major Arterial | 25,000 | 2/2D | 120' |
| | Helmbright Road | Taylor Station Road | Gahanna/Franklin Co | 10,600 | 1/1 | 60'-80' | Major Arterial | 25,000 | 2/2D | 120' |
| | Taylor Station Road | Reyn.-New Albany Rd | Franklin Co. | 12,000 | 1/1 | 60'-80' | Major Arterial | 16,700 | 2/2D | 120' |
| Havens Road | Clark State Road | Mann Road | Franklin Co. | 1,400 | 1/1 | 60' | Collector | 6,400 | 1/1 | 60' |
| Mann Road | Havens Corners Road | Clark State Road | Franklin County | 1,400 | 1/1 | 55'-60' | Collector | 7,100 | 1/1 | 60' |
| McCutcheon Road | Stelzer Road | Stygler Road | Columbus/Gahanna | 6,400 | 1/1T | 60' | Minor Arterial | 6,000 | 1/1T | 80' |

City of Gahanna

2030 Design Year Thoroughfare Plan Roadways (Cont.)

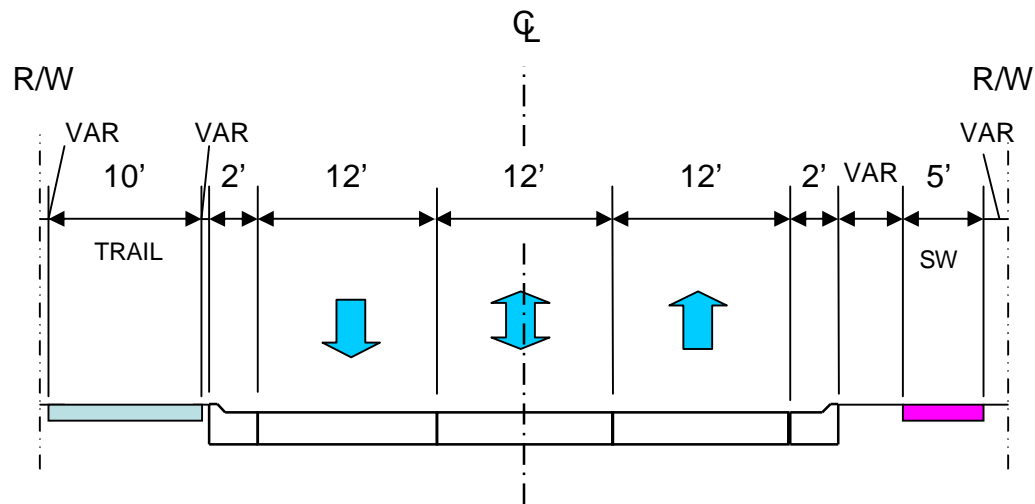
| Segment | From | To | Jurisdiction | Existing (2006) ADT | Existing Lanes | Existing ROW | Functional Classification | Estimated 2030 ADT | 2030 Number of Lanes | 2030 Prop. ROW |
|---------------------|---------------------|---------------------|---------------------|------------------------|----------------|--------------|---------------------------|-----------------------|-------------------------|-------------------|
| Mill Street | Granville Street | Carpenter Road | Gahanna | 15,900 | 1/1T | 60' | Minor Arterial | 17,700 | 1/1T | 80' |
| | Carpenter Road | Cherry Bottom Road | Gahanna | 15,900 | 1/1 | 60' | Minor Arterial | 17,700 | 1/1T | 80' |
| Morrison Road | Claycraft Road | Tech Center Drive | Gahanna | 6,600 | 1/1 | 80' | Collector | 22,600 | 2/2T | 100' |
| | Tech Center Drive | Taylor Road | Gahanna | 9,800 | 2/2T | 80' | Minor Arterial | 22,600 | 2/2T | 100' |
| | Taylor Road | Hamilton Road | Gahanna | 18,500 | 2/2T | 80' | Minor Arterial | 23,400 | 2/2T | 100' |
| Morse Road | I-270 | Stygler Road | Columbus | 32,000 | 2/2T | 120' | Major Arterial | 61,600 | 3/3D | 130' |
| | Stygler Road | Cherry Bottom Road | Columbus | 30,100 | 2/2T | 120' | Major Arterial | 58,600 | 3/3D | 130' |
| | Cherry Bottom Road | Hamilton Road | Columbus | 19,500 | 2/2T | 110'-120' | Major Arterial | 48,700 | 2/2D | 120' |
| | Hamilton Road | Underwood Farms Dr | Columbus | 19,200 | 1/1 | 80'-120' | Major Arterial | 40,600 | 2/2D | 120' |
| | Underwood Farms Dr | Johnstown Road | Columbus | 17,400 | 1/1 | 60'-80' | Major Arterial | 21,400 | 2/2D | 120' |
| | Johnstown Road | Harlem Road | Columbus | 15,000 | 1/1 | 60'-80' | Major Arterial | 23,200 | 2/2D | 120' |
| Ridenour Road | Johnstown Road | Chappelfield Road | Gahanna | 5,100 | 1/1 | 60' | Collector | 5,700 | 1/1 | 60' |
| Stygler Road | Johnstown Road | Granville Street | Gahanna | 7,400 | 1/1T | 60' | Minor Arterial | 12,500 | 2/2D | 120' |
| | Granville Street | Agler Road | Gahanna | 11,900 | 2/2 | 80' | Minor Arterial | 14,900 | 2/2 | 120' |
| | Agler Road | McCutcheon Road | Gahanna | 11,900 | 1/1T | 80' | Minor Arterial | 15,900 | 1/1T | 80' |
| | McCutcheon Road | Ridenour Road | Gahanna | 9,000 | 1/1T | 80' | Minor Arterial | 11,500 | 1/1T | 80' |
| | Ridenour Road | Morse Road | Gahanna/Columbus | 7,600 | 1/1T | 80' | Minor Arterial | 16,300 | 1/1T | 80' |
| Taylor Road | Morrison Road | Taylor Station Road | Gahanna/Franklin Co | 8,100 | 1/1T | 50'-80' | Minor Arterial | 21,200 | 1/1T | 100' |
| | Taylor Station Road | Easgate Pkwy | Gahanna/Franklin Co | 5,600 | 1/1 | 50'-80' | Minor Arterial | 16,500 | 1/1 | 80' |
| Taylor Station Road | Claycraft Road | Taylor Road | Gahanna/Franklin Co | 6,700 | 1/1 | 50'-80' | Minor Arterial | 12,800 | 1/1T | 80' |
| | Taylor Road | Havens Corner Road | Franklin County | 4,100 | 1/1 | 50'-80' | Minor Arterial | 10,500 | 1/1 | 80' |
| Tech Center Drive | Morrison Road | Pizzuro Park Dr | Gahanna | --- | 1/1 | 80' | Collector | 22,700 | 2/2T | 100' |
| W. Johnstown Road | Stygler Road | Ridenour Road | Gahanna | 6,700 | 1/1 | 60' | Collector | 8,400 | 1/1 | 60' |



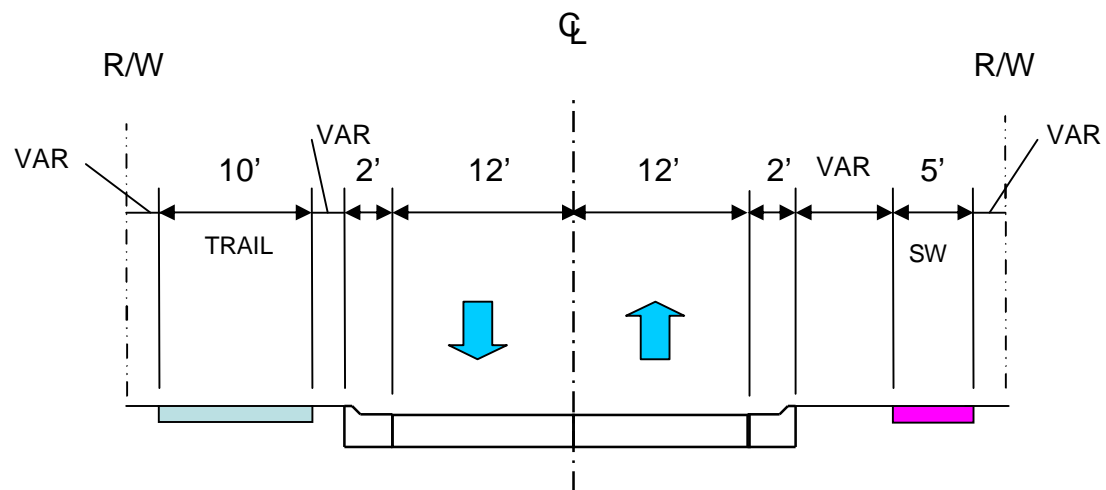
Collector Street (1/1)
50 to 60 Ft. Minimum Right-of-Way

Figure C-1

Thoroughfare Plan Typical Sections – Collector Street (1/1)



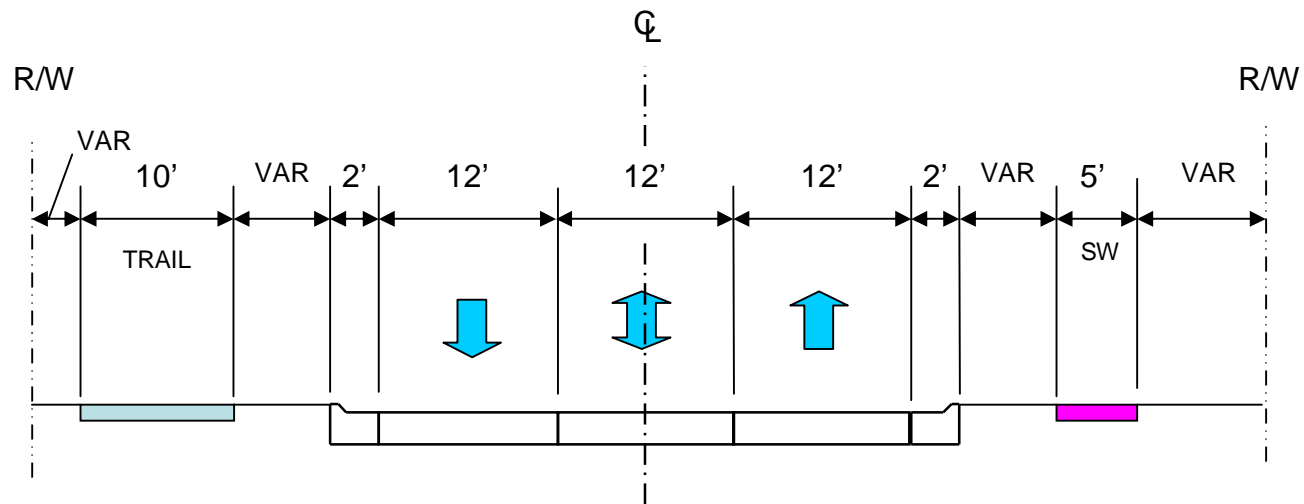
Collector Street (1/1T)
60 to 80 Ft. Minimum Right-of-Way



Minor Arterial (1/1)
60 to 80 Ft. Minimum Right-of-Way

Figure C-3

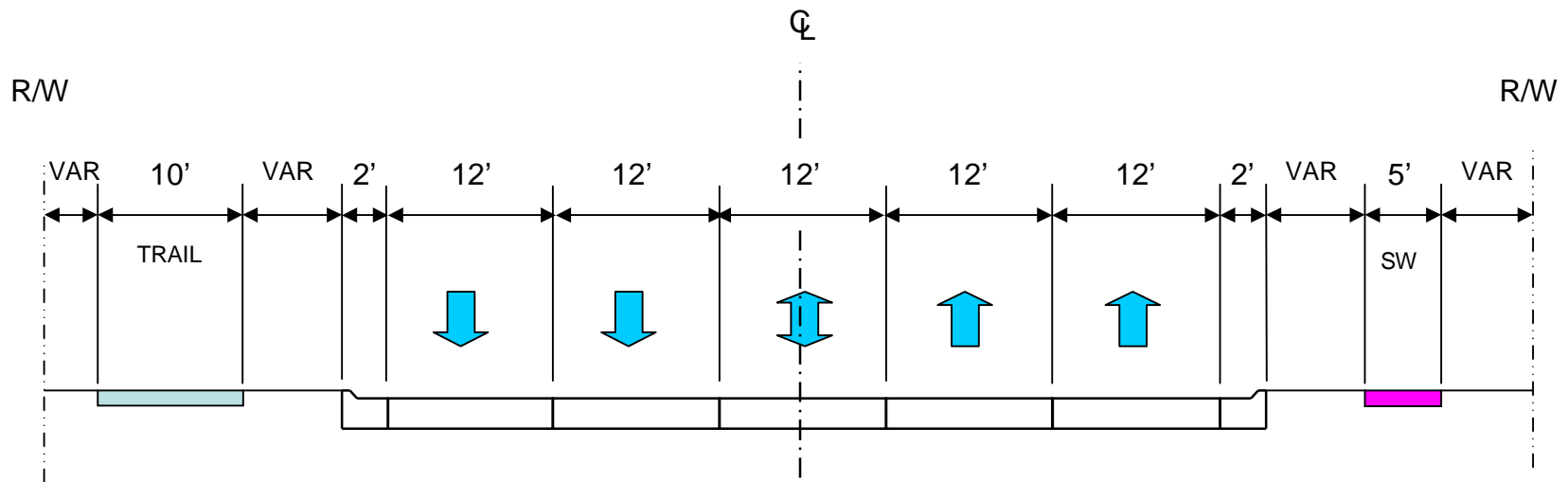
Thoroughfare Plan Typical Sections – Minor Arterial (1/1)



Minor Arterial (1/1T)
80 Ft. Minimum Right-of-Way

Figure C-4

Thoroughfare Plan Typical Sections – Minor Arterial (1/1T)

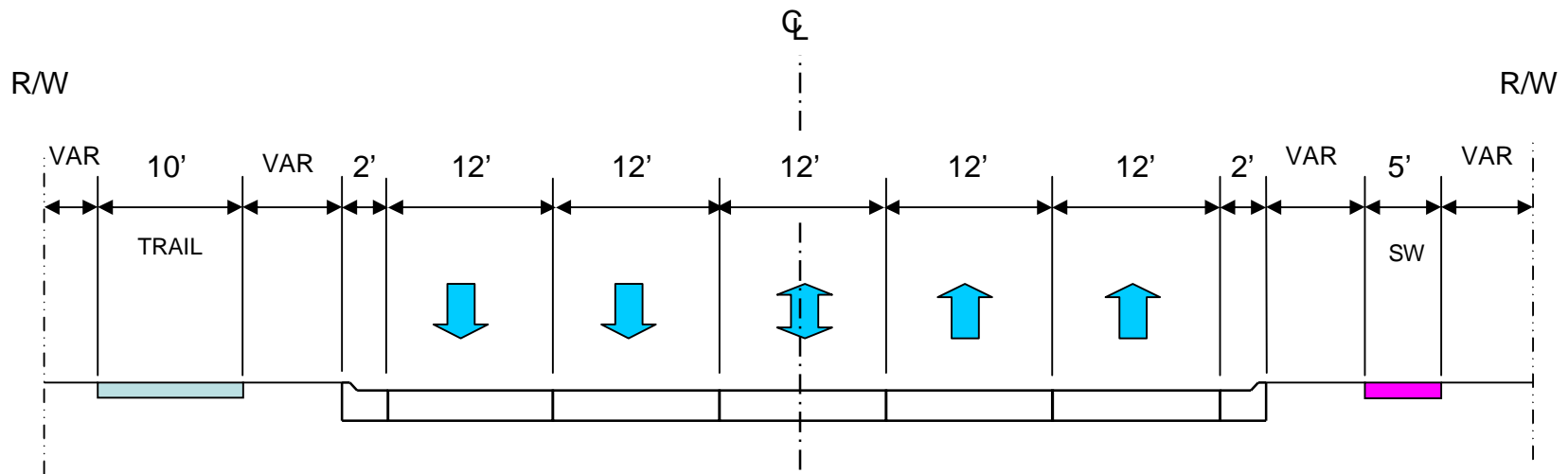


Minor Arterial (2/2T)
100 Ft. Minimum Right-of-Way

Note: Section applies to Collector sections of Morrison Road and Tech Center Drive

Figure C-5

Thoroughfare Plan Typical Sections – Minor Arterial (2/2T)



Major Arterial (2/2T)
100 Ft. Minimum Right-of-Way

Figure C-6

Thoroughfare Plan Typical Sections – Major Arterial (2/2T)

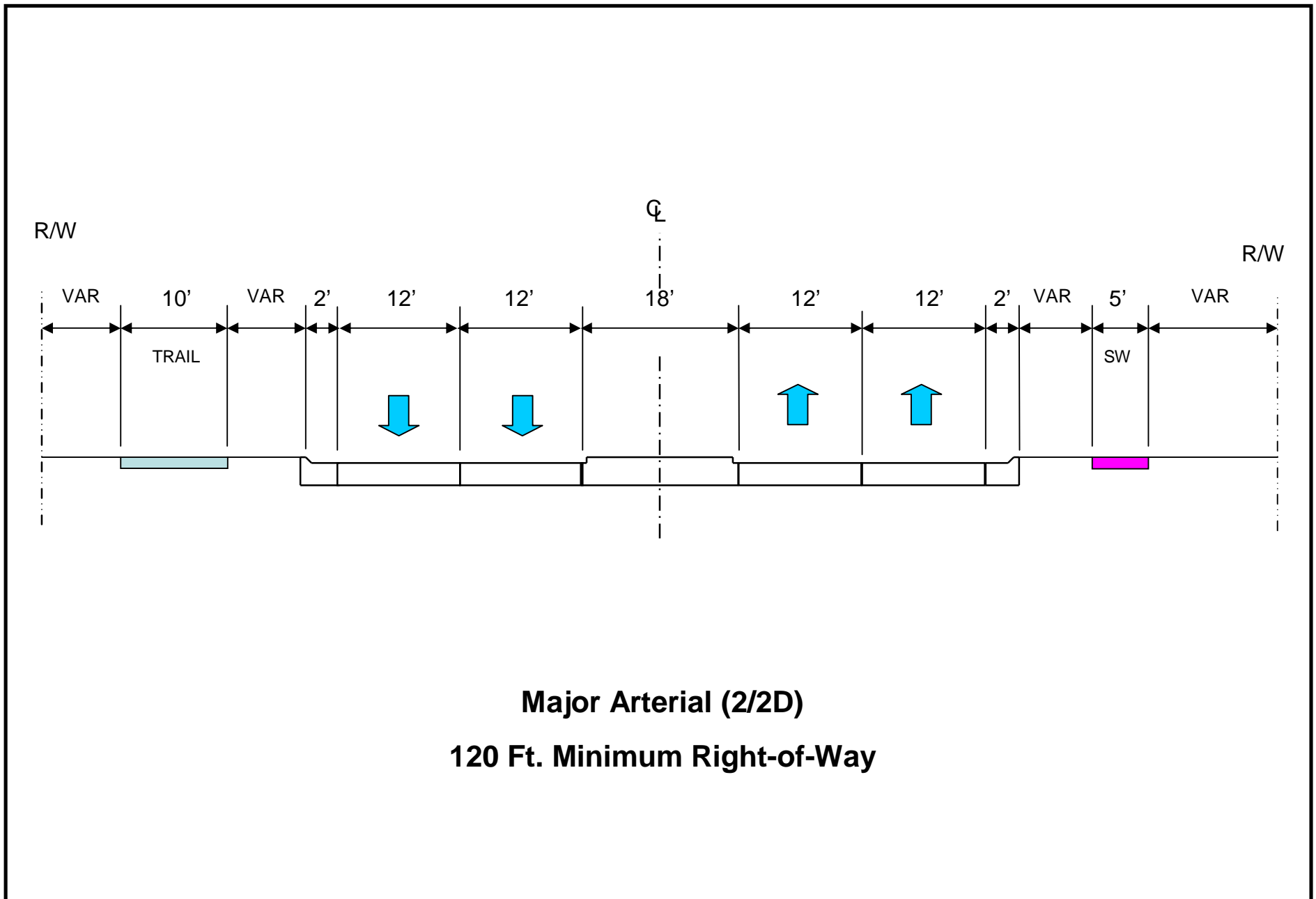


Figure C-7

Thoroughfare Plan Typical Sections – Major Arterial (2/2D)

Appendix D

Reference Documents

Reference Documents

1. Ohio Manual of Uniform Traffic Control Devices, Ohio Department of Transportation, 2005.
2. Ohio Department of Transportation, *Location and Design Manuals*, Ohio Department of Transportation
3. *Traffic Engineering Manual*, Ohio Department of Transportation.
4. City of Gahanna, Land Use Plan Update 2002.
5. Rocky Fork-Blacklick Accord, City of Columbus.
6. Village of New Albany, Strategic Plan 2001.
7. City of Gahanna Thoroughfare Plan, 2001.
8. *Highway Capacity Manual*, Transportation Research Board, 2000.
9. *Access Management Manual*, Transportation Research Board, 2003.
10. Ohio Department of Transportation, State Highway Access Management Manual, 2001.
11. Iowa Access Management Handbook, Center for Transportation Research and Education, Iowa State University, 2000.
12. Florida Department of Transportation, Driveway Planning Handbook, March 2005.